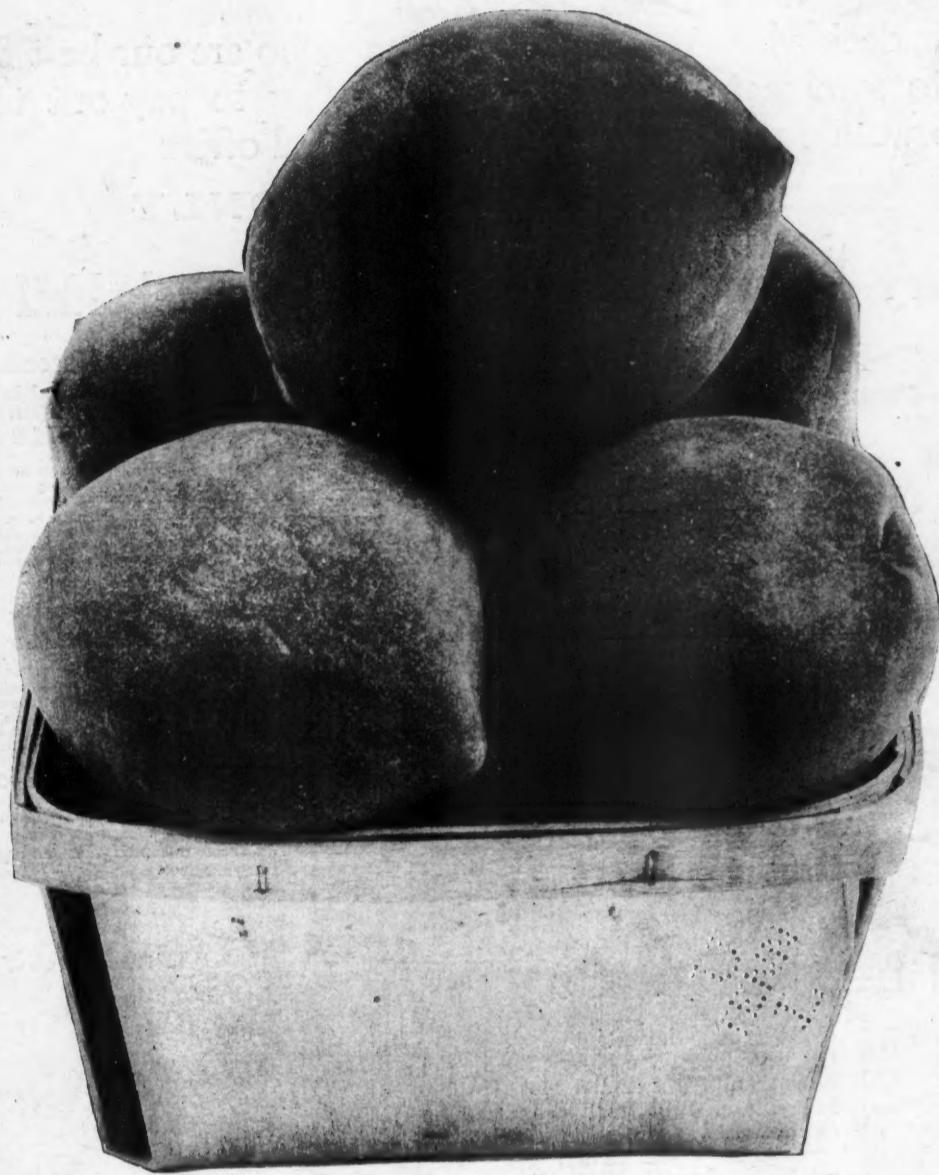


GREEN'S FRUIT GROWER



A MAGAZINE
WITH A MISSION

JANUARY, 1914

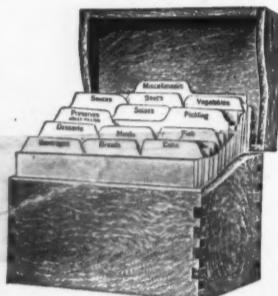
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By HARRIET A. BLACK

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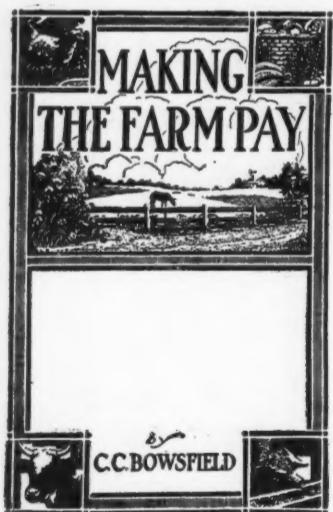
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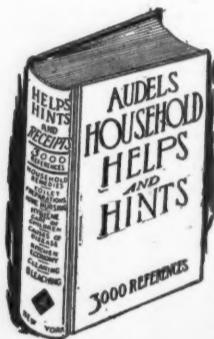
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CARE FOR the human body, diet, children, refrigerators and cellars, clothing, paintings, furniture, birds, the kitchen, the laundry, carpets, utensils, gold, zinc, glass, fires, furnaces, waste-pipes, musical instruments, man's wardrobe, mattresses, etc.

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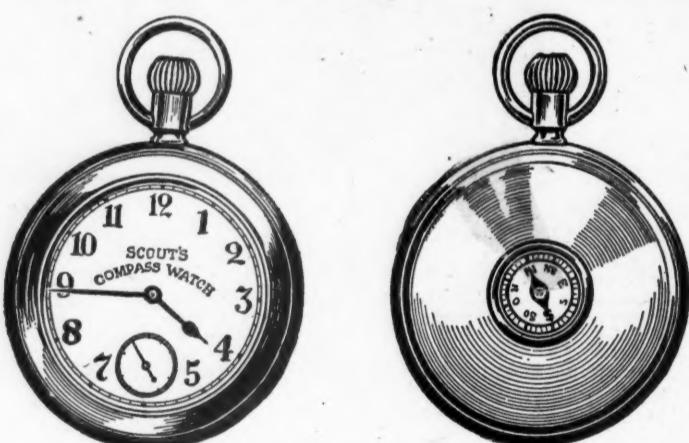
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The dependable companion for man or boy. Has a clear-cut, truthful face, strong, reliable works, snappy intelligent compass back.

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Green's Fruit Grower, Rochester, N. Y.

GREEN'S FRUIT GROWER

A Monthly Magazine for the Fruit Growing Farmer and His Family

CHARLES A. GREEN, Editor

Volume 34

ROCHESTER, N. Y., JANUARY, 1914

Number 1

January.

"Janus and I; oldest of potents!
Forward I look and backward, and below
I count—as god of avenues and gates—
The years that through my portals come and go,
I block the roads and drift the fields with snow."
—Longfellow.

Will It Pay to Grow for Market Apples of High Quality?

By Chas. A. Green.

This is a subject that I have been deeply interested in. I am a grower of superior flavored apples which I enjoy eating. I have desired to learn whether there were enough people who were willing and able to buy these superior apples at a price that would warrant the growing of apples of superior quality. To this end I have packed these high quality apples in boxes of standard size and offered them for sale at \$2.00 per box. I have advertised them to a moderate extent and have made moderate sales, but am not entirely satisfied that at the present day there are enough people in the country to appreciate high quality apples to warrant their being planted extensively for market, yet I am planting such an orchard myself. I find in the city of Rochester, N. Y., moderately rich men who buy every year

cessfully conduct even a few acres. This is true, but I am personally acquainted with several who do not appear to recognize it, and simply follow the beaten path to which they have been accustomed from year to year, without expending any considerable amount of thought as to whether their regular routine could not be improved upon and their operations made more profitable by a little timely thought and study. Examples are not uncommon in almost any section to prove that such would be the case, but the habits of several years are hard to break.

I think one trouble with most of us is that there is not enough faith put into our work to make the necessary investment to reach the highest success, whether that investment be in the capital or the effort that is put into the business. Sometimes we may not have been satisfied with the results which we have gotten, yet feel that our failure was due to unfavorable conditions, or to some freak of nature, rather than to ourselves, and consequently do not spend the time necessary in thinking and planning how we could bring entire success instead of partial failure under like conditions in another season.

To the man of an investigating turn of

duction, even where the product itself is doubled or perhaps largely increased.

There are many problems of this kind which this will suggest to any one who plans this winter for next season's operations, and if a solution of them involves some improvements about the farm which will require additional investment, or take more planning to carry into effect, the habit of carefully planning for the work ahead and of carefully thinking out the details and studying the means by which the work can be brought to a most successful consummation, when it once becomes fixed, will greatly increase his knowledge and the enjoyment of his work, thus making him not only better, but a more successful producer of marketable products.

Report of Expenses and Profits of a 1913 Peach Crop On Less Than 100 Acres.

Editor of Green's Fruit Grower:—The shipments were as follows: 20,214 half-bushel baskets, or 31 cars of 640 baskets each and 374 baskets over; 12,089 carriers, six gallon, making 30 cars of 400 carriers each with 89 carriers over. This makes a total of nearly 62 cars, or 19,174 bushels,

Getting Rid of Waste Lands.

Written for Green's Fruit Grower by John W. Richardson.

Like many New England farms, the one which came into my possession was divided into small fields by stone walls. The frosts of many winters had brought them into a twisted and tumbledown condition, and years of careless cultivation had permitted the growth of bushes and briars along their sides. Two things were apparent. The fields were too small for convenient or economical cultivation, and each of these old fences made a strip of ground at least eight feet wide practically waste land. Resolving to remedy this condition, with the labor of hired man and team when other farm work was not pressing, most of these useless fences were removed to the outside boundary walls of the farm. With this additional material these outside walls were rebuilt in a substantial manner.

The result was eminently satisfactory. At comparatively small expense an acre or two of virgin soil hitherto worse than useless, was made available for cultivation. Also the larger fields were more easily and profitably worked, and an addition made to the value and beauty of the farm.

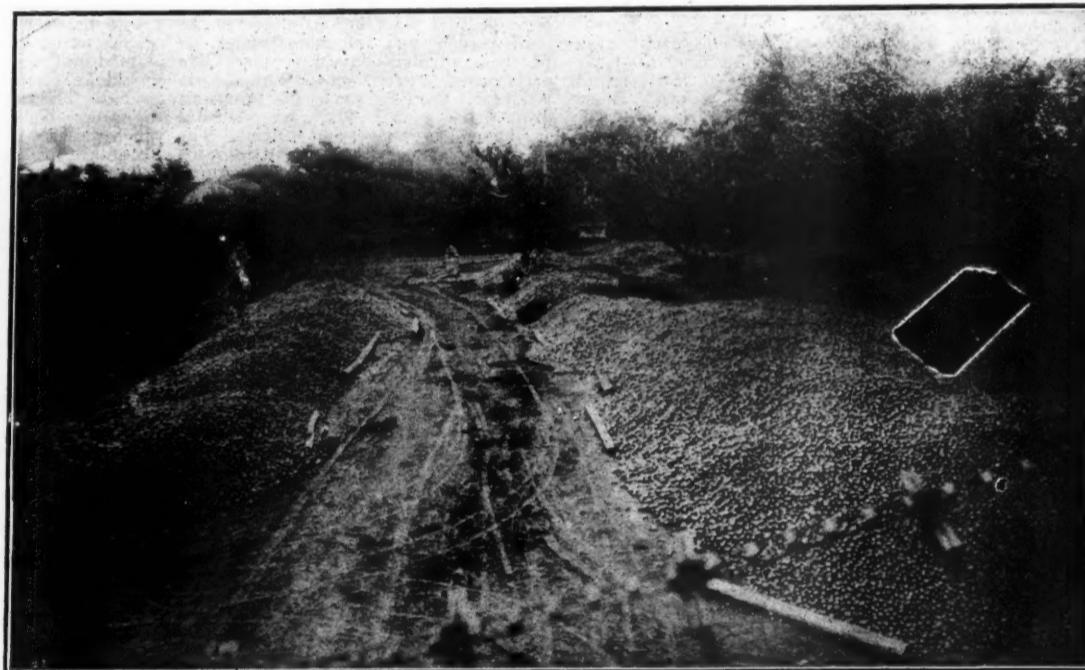
My attention was next turned to an unsightly acre of neglected ground lying between two cultivated fields. The oldest inhabitant said it had never been plowed. It certainly had a most forbidding look, and probably no previous owner had sufficient courage to attempt to reclaim it. On its surface several large boulders and numerous smaller ones were partly concealed by a growth of hardhack, wild rose and huckleberry bushes. It was indeed waste land.

A neighbor when told that I intended to clear it up and plow it, said, "You will find that you have tackled a bigger job than you are aware of." "All right," I replied, "I shall try it anyway." On cloudy days in haying time the bushes were closely cut with a stout scythe and as soon as dry burned on the ground.

The larger boulders were blasted into pieces of convenient size to be hauled away, the smaller ones pried out with crowbars, and all removed to a place where I wished to build a new wall. In the fall with a strong team a much better job of plowing was done than I had thought possible, and the furrows were left to be disintegrated by the winter frosts. The next year the ground was thoroughly disked four times, the bush roots piled and burned, and the ashes spread. The following spring a good dressing of well-rotted barnyard manure was harrowed in with the disk harrow. About June 1st winter squashes were planted eight feet apart each way, with two shovelfuls of fine manure mixed with the soil in each hill. Until the growth of the vines prevented, the soil between the rows was kept well stirred with a cultivator. In October eight tons of squashes were harvested and sold to a nearby canning factory. As the squash crop generally was a failure that year, I received the unusually high price of forty dollars per ton. As soon as the squashes were off, the ground was seeded with timothy and clover, which yielded two good crops the next season. The squashes alone more than paid all the expense of converting what had been only an eyesore, into a productive field.

The writer hopes this record of his experience may encourage other farmers to get rid of their "waste land."

"Poor man! How he shivers! He must be nearly frozen to death." "No, he isn't. I was just talking to him. He says something is wrong with his watch and he has to keep jiggling it to keep it from stopping." "Judge."



Culled apples waiting for the evaporator.

mind, and who has trained himself to careful observation, there are great opportunities along this line. As is known to readers of Green's Fruit Grower, just a few years ago a man who had applied himself to the seemingly impossible task of growing good crops in the semi-arid region where the rainfall was apparently too small to get maximum yields, was awarded for his patient thought and effort in the discovery and application of the "dry farming principle," which has proven successful in the growing of many crops upon the semi-arid lands of the west.

As a logical result of his discovery, not only practical growers, but also colleges and experiment stations have taken up the work and enlarged on the principle, all of which was done much for the improvement of western agriculture. In a way, this man's discovery was accidental, yet he had been working toward this end for years, bending every thought and energy toward solving the problem, which fact gave him a keen eye and quick discernment in noting effects and ascribing them to the proper cause, as a man who had not trained himself in a similar way could not have done.

We may think we have no such general problem to solve, and yet, right at home in our own local work, small though its scope may be, there are many unsolved problems which we can help to work out, in the proper rotation of crops, the fertilizing and cultivation of the soil, the economical production of our crops and the best methods of marketing the same. It is a most commendable undertaking to make two marketable potatoes grow where but one grew before. The broader application of this economic principle will enable us to cheapen the cost of pro-

writes Mr. Harrison.

The highest price for which first grade peaches in six gallon carriers sold for, net f. o. b. Berlin, was \$2.09; the lowest price \$1.25. The highest price paid for one-half bushel baskets, first grade peaches, net f. o. b. Berlin, was \$1.05 per basket; lowest price, 60 cents.

The total net sales of peaches was \$35,165.53, which would make an average price per bushel, including all grades, soft peaches sold locally, etc., of \$1.83.

The first full car was loaded on July 18th; the last full car was loaded on August 22nd.

The expense we had in growing this crop of peaches, picking, packing it and loading on cars was as follows:

Plowing, cultivating.....	\$ 776.37
Pruning, etc.....	395.71
Fertilizing, seeding.....	60.50
Spraying.....	704.72
Harvesting, hauling, loading.....	2286.06

Total labor account..... \$4223.36

On nine cars which we consigned on our own account we had to pay,

Icing charges.....	\$ 242.50
Spent for carriers.....	2058.73
For baskets.....	1085.90
Labels.....	38.25
Pads.....	149.00

Spray material.....	1528.95
Making a total.....	\$5103.33
Added to labor.....	4223.36

Total expense..... \$9326.69

which amount deducted from the total net sales of \$35,165.53, leaves a total net profit for the year on the peach crop of \$25,838.84. Can you beat it?

134895

A Practical Fruit Garden

Written for Green's Fruit Grower by F. H. Sweet, Va.

Whatever may be the dimensions of the places, which are also the wet places, area which the home-maker is able to use for a fruit garden—and it should be liberal—there are some practical points that he should consider carefully before planting. Before setting a tree, make a plan of the garden drawn to a scale. Figure out on paper how you can dispose of the various fruits so as to secure the greatest economy of space. Many fruit gardens are planted in a careless, haphazard sort of way, and therefore have no definite and logical arrangement. If you have only a quarter acre to spare, or even less, it pays to make a plan. You can see things on paper that you cannot see in the field. Having made a good plan, preserve it, and follow it consistently in all your planting.

No matter where you are located, there is probably a great variety of fruits which you can grow. But the point is, which will grow best? The average home orchardist cannot afford to fool away his time in oddities. Examine the successful home orchards of your neighbors, and seek the advice of the owners. Make the main body of your planting of standard fruits, and then if you have room tuck in a few of the others for trial. Remember, also, that if your space is limited it may be better for you not to try to grow the staple fruits, as winter apples and winter pears, but give all your space to the early and tender sorts, such as small fruits, peaches, pears, and early apples; just as you would not try to grow the winter supply of potatoes in a small garden which can be used to better advantage in growing beets, radishes, tomatoes, and such things.

Most fruits will thrive on a great many varieties of soil, but every one is more or less partial to soils of a certain character. It is usually out of the question to do much in adapting the different fruits to the different soils in the home fruit garden, but this point should be kept in mind and advantage taken of any little variation of soil. In general, the home fruits (apples and pears) prefer a heavier soil than the stone fruits (plums, peaches, cherries and apricots). Apples seem to do especially well on a clay loam; pears on a heavy clay loam; plums and cherries on a medium loam; peaches and apricots on a light, sandy loam; quinces on a heavy, deep and moist loam; the bush fruits, as currants, raspberries, etc., on a medium heavy and moist loam; strawberries and grapes on rather light soil. Of all the fruits, the apple succeeds on a greater variety of soils than any other. In laying out the fruit garden, respect these varying tastes and satisfy them wherever possible, but do not be deterred from growing any of the common fruits because you do not have the most favorable soil conditions for them. Good fruit can be grown on almost any soil if it is not extremely sandy, rocky, or shallow. Then again, soils are very readily modified in texture and fertility by careful management. Usually, success depends more upon the man who cares for the trees than upon the soil in which they are grown.

Here is a subject of dispute among amateur fruit growers. Shall I plant my orchard on a northern or southern slope? That depends. Plant on the northern slope when lateness is desired; plant on a southern slope when earliness is desired. For example, if there is danger in your locality of the fruit being cut off by frost, particularly peaches and plums, which blossom early, a southern slope should not be chosen, since the trees will blossom several days earlier than on the northern slope and so be more liable to injury. Again, you would not plant late-keeping winter apples on a southern slope, but you might plant early varieties, as Early Harvest and Astrachan, on a southern slope because you wish them to ripen as early as possible. The northern slope is apt to be cooler and more moist than the southern slope, hence it is better adapted for small fruits, which love these conditions. If the home fruit-grower is fortunate enough to be able to choose between slopes, he will do well to consider whether he wishes earliness or lateness, and select accordingly. In a majority of cases a northern exposure is preferable.

If you have any choice in sites, choose a gentle slope in preference to level land. A slope generally gives good water drainage; fruit trees cannot thrive with wet feet. Notice how they die out in the low

Again, a slope gives the fruit garden good air drainage. Cold air is heavier than warm air and settles to the low places, which are therefore the frosty places. On the other hand, avoid very steep slopes which can be tilled only with difficulty and are likely to be wind-swept. A slope of four or five feet in a hundred is sufficient. Many home orchards are planted on a hillside so steep that they cannot be tilled or sprayed. Better have the trees there than to have none at all, but these are rarely satisfactory. The general point to be kept in mind is not to put the fruit garden on flat land or in a

keep the several crops from crowding.

Usually it will be best to have the fruit trees by themselves in one orchard and to plant the small fruits in connection with the vegetable garden. The ideal home garden has along one side a row or two of raspberries, then blackberries and currants and gooseberries and strawberries; then the perennial vegetables, as asparagus and rhubarb, and finally the annual vegetables. It is much better to associate the small fruits with the vegetable garden than with the orchard, because they love the same kind of soil that is necessary for the production of choice vegetables—one that has been made rich and full of humus by liberal dressings of manure. If the locality is troubled with severe winds that are likely to injure the fruit it is well to plant a row of

has a limited space should consider all these things, because he wants to get just as many plants on his land as will do well. As a general guide, the following distances are suggested: Apples and sweet cherries, thirty to forty feet; pears, apricots, plums, peaches, and sour cherries, sixteen to twenty-four feet; quinces, sixteen feet; grapes, six by eight to eight by ten feet; strawberries, one or one and one-half by four feet; currants and gooseberries, four by six to six by eight feet; raspberries, four by six to five by eight feet; blackberries four by seven to six by nine feet.

In case dwarf apples or dwarf pears are used, the distances for these may be half those recommended for the standards; but some think dwarf trees are not so satisfactory in the home orchard. They require special care to be profitable.

There are many good methods of laying out the orchard. One of the best for small areas is to stretch across the field a line or wire on which the proper distances have been measured and marked with a tie of white string or cloth. As soon as stakes for one row is set this line is moved to the next. In this case it will be necessary to align the trees carefully when planting. If a wire is used, it will be better to mark the distances on it by wrapping around it a smaller wire, the ends of which are twisted tightly so they cannot slip. In case the orchard is not to be more than twenty rods long a very convenient and effective plan is to stretch a wire between two stout stakes which are driven on a line with the row to be planted first, one at each end. The wire should be stretched two feet from the ground. The holes can then be dug and the trees planted immediately, after which the wire is moved to the next row. No stakes are required in this method, and the only measuring that it is necessary to do is the distance between the rows.

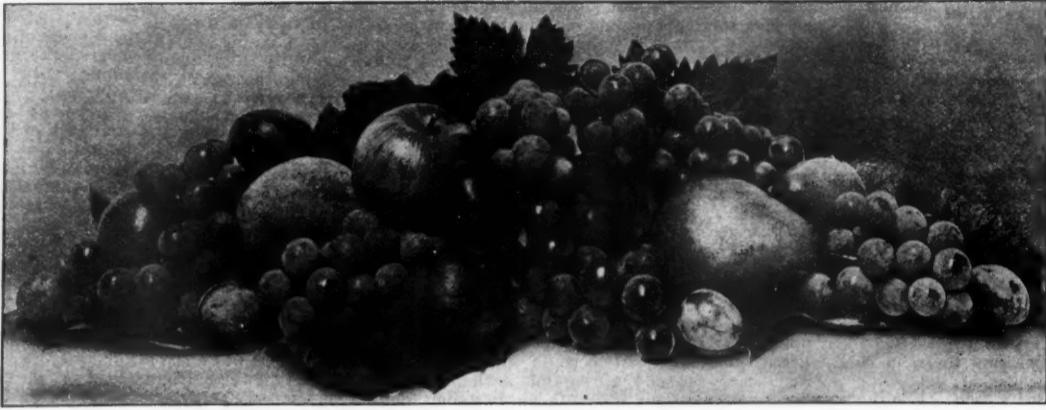
If several rows of one kind of fruit are to be planted, or of several kinds of fruit the same distances, do not plant the trees in squares, but in hexagons. More trees can be grown on the land, and they are distributed more evenly. To plant in hexagons, get a hatchet and as many stakes, twelve to eighteen inches long and of uniform size, as there are trees to plant. Take two small wires and make a loop in each end of both large enough to slip over the tops of the stakes. The length of each wire from center to center of the rings should be exactly the distance that it is desired to have the trees apart—say

place one row of stakes along one side of the orchard site, marking the exact position of the first row of trees. To lay out the second and succeeding rows, slip a loop of one wire over the first stake and a loop of the other wire over the second stake. Pull the two wires taut until the two loops are together, the whole forming the letter V. This marks the position of the first tree in the second row. Place the wires over the second and third stakes in the first row, and locate the second tree likewise, and so, on for an indefinite number of rows. The trees in the first and third rows will be opposite each other, while those in the second are midway and alternating. Fifteen per cent more trees can be put on an acre by this arrangement than by planting in squares, and every tree is equidistant from every other tree; in squares they are not.

Supplement all methods by careful sighting each way when planting. Make the rows straight. Crooked rows look slovenly.

Fruit on Every Farm.

No farm should be without fruit. A farmer who has a taste for fruit-growing, and land suitable for it, should have his orchards of such fruits as his local market calls for and of such varieties as succeed best in his locality. Where there is wise planning and thorough work the orchard may be the most profitable part of the farm. On the other hand, it may be a failure under neglect or mismanagement. A small quarter of an acre of quinces in a Massachusetts town last year gave a yield which in gross amounted to \$250, or at the rate of \$1,000 per acre. The ordinary planter could hardly expect to reach such results. But every farmer should endeavor to have a home supply of all those fruits that can be easily raised. Then lay out to raise them in such perfection as to easily take any market and the surplus will find a ready, profitable sale.



A PRACTICAL FRUIT FARM.

We often see apple trees with pears between them, currants between the pears, and strawberries tucked in between the currants. This is a very unsatisfactory combination except in the few cases where the grower keeps the soil very rich and gives each fruit special attention.

In the home fruit garden it is desirable sometimes to plant trees more thickly than they should stand after coming into full bearing, with the idea of taking out some of the trees when they have borne a few crops. Thus peaches are often planted between apple trees, and early bearing varieties of apples, like Yellow Transparent and Wagener, between the standard varieties. This plan is all right if the peaches or early apples are removed when the other trees need the space, but the majority of home fruit-growers will not do this. In most cases these fillers are not cut out at all, and the orchard becomes a brush-pile. Others cut them out eventually, but not until the permanent trees have been seriously weakened by the crowding. In general, then, give each fruit a separate piece of ground; but if your space is so limited that you absolutely must mix them, be careful to keep up the fertility of the soil and to

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Answers to Inquiries.

Old Iron to Prevent Black Knot.

Mr. C. A. Green:—Is old iron good to put into holes when setting out plum and cherry trees? I have been told by an agent for trees that it would prevent black knot.—E. M. Turner, Maine.

Reply: I have never heard of old iron being used to put in the holes when setting out trees to prevent black knot. I have no confidence in such a remedy.

Fruit Trees on the Lawn.

Mr. Chas. A. Green:—I have an acre of ground, and would like to know what kind of fruit trees are the best to plant on the front lawn that will make nice shade, and at the same time produce some income.—Albert Browning, Washington, D. C.

Reply: Cherry and apple trees I can safely recommend for the lawn. I have cherry trees on my lawn which are very attractive in blossom and in fruit. The fruit of the cherry is as handsome as it is possible to imagine and attracts general attention.

Planting in Minnesota.

Dear Mr. Green:—Kindly answer the following questions:

1. Which is the cheapest and yet lasting fence to separate one acre of ground from the rest of the farm, for garden and lawn?

2. What is the probable cost of such a cheap, durable fence?

3. What trees, berries and plants could one set out this fall so as to be reasonably sure of success? The place is in Franklin Co., Ohio.

4. In what manner would you set out trees on a two-acre plot so as to secure the greatest advantage; trees to form the nucleus for a fruit garden in that locality?—Phil. Laux, Minn.

Reply: 1. I recommend a heavy galvanized wire fence, but for myself would erect no fence whatever unless there were danger of cattle breaking in.

2. For price inquire at any hardware store.

3. In Ohio you can plant almost anything in the way of trees, plants and vines, but I do not advise planting largely the peach or strawberries. I would not advise planting as above in Minnesota in the fall where the winters are so severe.

4. I would plant apple trees in rows 3 or 4 rods apart, the trees being 50 feet apart in the rows. Then I would plant dwarf pear trees or cherry trees in each row of apple trees. Between the rows of apple trees, which are far apart, plant strawberries, red raspberries, blackberries, gooseberries, quince trees, plum trees, and whatever else you desire.

Where Certain Apples Succeed.

Mr. H. C. Schmitt of Indiana asks for information in regard to Stayman's Winesap, Winesap and Jonathan apples. He wants to know how they will succeed and grade up in comparison with other varieties in Indiana.

Reply: The above-named apples are those largely grown in the west and southwest. They are not largely grown in the eastern or middle states, therefore they are something of an experiment for Indiana, Ohio, New York, or Pennsylvania. They are apples of superior quality. I doubt whether they can be grown in the eastern or middle states and sold at prices paid for such apples as Baldwin or Greening, for I suspect they would not yield so many barrels per tree.

I am planting at my new farm near Green's Fruit Farm an apple orchard made up entirely of such high quality apples as Banana, Blenheim Orange, Delicious, Mother, Melon, Fameuse and its seedlings, Shawsassie Beauty and McIntosh Red. But I would not plant of those varieties with the expectation of selling the fruit at the same price per barrel at which I am selling Baldwins and Greenings, for my impression is that it may cost more to grow these apples of superior quality than it does to grow some of the more common varieties. But I find there is a growing demand for apples of high quality. People of the wealthier class are beginning to learn the value of high quality apples and will pay \$6.00 a barrel for them when they could buy more common apples at less than half that price.

A New Apple Orchard on an Old Site.

Charles A. Green:—Is it advisable to set out an apple orchard on land where there has been an orchard and the trees cleared off on account of dying of old age. Some of the older residents say apple trees should be set on new land as trees set on the site of an old orchard do not do so well. If so can you give the reason.—Irving O. Grant, R. I.

Reply: While I would not hesitate to plant a new apple orchard on the site of

an old apple orchard where the old trees had been dug out and the land cleared, I will say frankly that I would prefer to plant the new apple orchard on land that had not been occupied previously by orchard trees. I am led to this reply by my experience in growing apple trees in the nursery. I find by experience that where apple trees in the nursery have been grown in the same soil over and over again the trees do not make as thrifty growth as they do on fresh soil where apple trees have not been grown in recent years. It seems evident that any particular crop, whether of grain or tree, takes up from the soil certain fertility particularly desirable by those certain grains or trees, thus leaving the soil somewhat impoverished in the particular food that the specified grain or tree most freely feeds upon. This would teach us that for the best results corn should not be planted often after corn, or wheat after wheat, apple trees after apple trees, or peach trees after peach trees, and so on. But trees are not such gross feeders on the nutrient of the soil as are corn, wheat and other grain. Trees feed more on the subsoil, the roots penetrating often to the depth of six or eight feet or deeper, while grains are dependent on the upper layer of soil. At Green's Fruit Farm we have planted young apple trees to take the place of old apple trees that had perished and the young apple trees thus planted made satisfactory growth and were productive.

buildings though old could not have been built for less than the price I paid for this farm. There is not much fruit on the farm I bought. Farms from six to twelve miles of Rochester have been sold the past year for \$115 per acre.

Reply: You must not confuse the method of pruning peach trees with the method of pruning apple trees, for the methods are not the same, and yet you seem to think that the kind of pruning that will do for peach trees will do for apple trees, which is a mistake.

Then again, no person can make an expert pruner or tell precisely how trees should be pruned by letter or by any form of writing. It is difficult to teach pruning if one takes the student to the orchard and cuts the branches off and explains to him why they are cut off, if you consider pruning as a fine art, which it is.

Remember that your peach and apple trees will thrive and bear fruit without any pruning at any time in their history, but judicious pruning is remarkably helpful and should be studied with care by every fruit grower. It is much easier to overprune an apple tree than it is to overprune a peach tree. The new growth of peach trees, that is the growth made the previous season, should be cut back at least one-half its length each year after planting, but no such pruning is recommended for the apple tree. In pruning the apple tree you simply form the proper shape of the head, thinning out surplus branches or branches that cross each other. When you plant a peach tree every branch should be cut off, leaving simply a straight stick cut back two feet above the ground.

Growing Nuts in Arizona.

Prof. H. E. Van Deman:—Kindly give me your opinion as to growing nuts for profit in western Arizona, at elevation of 1000 to 2000 feet, on rich irrigated land, especially Persian walnut, pecan, Japan chestnut, filbert, also how should the common hickory, butternut, and black walnut grow there for timber and nuts.—C. Irving Page, N. Y.

Reply: From the little I have seen of Arizona and know of the soil and climate from those who have had experience in growing fruits there, I believe that the best nut to grow is the almond, although I might be mistaken about this. A place where spring frosts would not kill the bloom would be one of the things to know about reasonably well before planting. The Persian walnut and pecan might do very well if the soil is deep and rich and the water supply abundant. The hickory and chestnut I would not expect to flourish but they might be tested in a small way. Filberts need a cool, moist climate and Arizona is dry and hot, being very unfavorable. The peach does well there in some localities but the apple and pear must be planted well up and out of the hot valleys and where water is sure for irrigation. The date is one of the fruits to grow in the hotter parts of Arizona. I saw this many years ago, when in the government service, and sent to Africa for plants of the best varieties known, and had them planted at Phoenix over 20 years ago, where they are now fruiting, as I know by having gathered and eaten dates from them three years ago. If the right varieties are planted there on the right soil and well cared for they will give good returns.—H. E. Van Deman.

WIFE WON.

Husband Finally Convinced.

Some people are wise enough to try new foods and beverages and then generous enough to give others the benefit of their experience. A wife writes:

"No slave in chains, it seemed to me, was more helpless than I, a coffee captive. Yet there were innumerable warnings—waking from a troubled sleep with a feeling of suffocation, at times dizzy and out of breath, attacks of palpitation of the heart that frightened me.

"Tea is just as injurious as coffee because it contains caffeine, the same drug found in coffee.)

"At last my nervous system was so disarranged that my physician ordered 'no more coffee.' I capitulated.

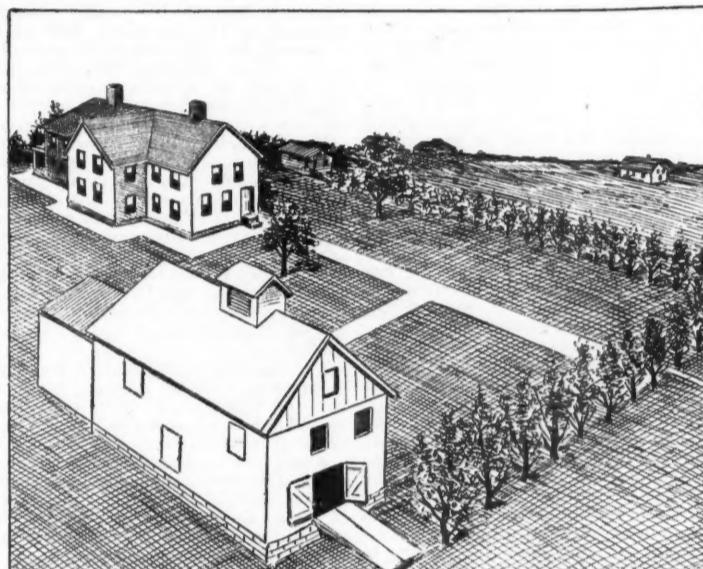
"Determined to give Postum a fair trial, I prepared it according to directions on the pkg., obtaining a dark brown liquid with a rich snappy flavor similar to coffee. When cream and sugar were added, it was not only good but delicious.

"Noting its beneficial effects in me the rest of the family adopted it—all except my husband, who would not admit that coffee hurt him. Several weeks elapsed during which I drank Postum two or three times a day, when, to my surprise, my husband said: 'I have decided to drink Postum. Your improvement is so apparent—you have such fine color—that I propose to give credit where credit is due.' And now we are coffee-slaves no longer."

Name given by Postum Co., Battle Creek, Mich. Read 'The Road to Wellville,' in pkgs.

Postum now comes in two forms: Regular Postum—must be boiled. Instant Postum is a soluble powder. A teaspoonful dissolves quickly in a cup of hot water and, with cream and sugar, makes a delicious beverage instantly. Grocers sell both kinds.

"There's a Reason" for Postum.



The above drawing of dwarf pear trees is intended to illustrate our C. A. Green's idea of marking the boundary line on a village or city lot by the planting of fruit trees. He calls this a fruit tree hedge. There is no form of fence which is so permanent and can be introduced so cheaply as that made by the planting of fruit trees, where a line fence would have otherwise been built. No form of fence can be made so attractive as these fruit trees. Only consider for a moment the amount of fruit which can be grown on two sides of the ordinary city lot or village lot when planted along the line where a boundary fence usually is built. I have planted these trees as close together as one foot, and they have succeeded in growing a large amount of fruit of fine quality from such trees. But 2 to 3 feet apart is close enough for such border planting. I have used dwarf pear trees, peach trees, plum trees for this purpose, but apple and cherry can be planted, or different sections of the fence row can be planted to different varieties or classes of trees.

In order to keep the trees low headed they should be pruned much the same as hedges are, that is the tops and side branches should be clipped off each year. This clipping tends to make the trees more fruitful than they otherwise would be. At Green's fruit farm we have discovered that pear and apple trees which have been cut severely each year in order to secure scions for grafting and budding have yielded fruit, while other trees in the same row are barren.

The reader can see that if these fruit trees shown in the above illustration were scattered about the lawn they would obstruct the lawn so it could not be easily mowed or cared for, and the trees would not be as attractive if scattered over the lawn as they are if planted entirely out of the way on the border of the lawn. Here is something that I have not seen recommended by any other publication than Green's Fruit Grower. I made the discovery that trees would long remain in fruit closely planted getting the light and air from all sides, by finding fruit trees in the nursery row, less than 1 foot apart, bearing fine specimens abundantly. Bear in mind that if these hedge rows, as I call them, were not fully exposed to the sunshine and fresh air on both sides of the row they would not succeed so well.

To Buy or Not To Buy.

Mr. C. A. Green:—One of my neighbors went with a land agent to Geneva, N. Y., and bought 118 acres at \$135 per acre with good improvements, level land, with 3 acres of timber, 10 of grapes, 3 of plums, 5 of apples, and 300 pear trees. He has paid \$500 down. He is about to back out and lose his \$500. I told him I would write you and find out what you thought he ought to make from the place if he moves on the farm. The people here say that he had better lose the \$500, that he will not like it there, that he cannot sell the fruit, that the grapes won't pay for the baskets. He is farming 160 acres here, pays \$6.00 per acre rent, and clears from \$200 to \$1000 a year. If the farm he is on should be sold it would be hard to find another to rent here. Land is selling here for from \$200 to \$250 per acre.—C. G. Smith, Ill.

Reply: It is almost impossible for me to aid this man with my advice. It is true that vineyards at present are not generally very profitable. The best people to advise him are the people who live near the Geneva farm. Much depends upon the varieties of fruit growing upon that farm. I should rather lose \$500 than buy a farm which does not give promise of good returns. I bought a farm this past year of 100 acres for \$800. It had to be sold in order to close an estate, the owner having died, and was probably sold at rather a low price. The

localities do better than in others.

I think you are right in seeking information in regard to old varieties with which many people are not familiar and such is the case with the Melon apple.

Pruning the Apple and Peach.

Dear Sir:—After studying the different fruit growing publications, yours, included, I came to the conclusion that all apple and peach trees should be cut back each year from one-third to one-half the previous year's growth. I supposed this meant all limbs necessary to get the proper shape to the tree. On page 2 of Green's Fruit Grower in answer to an inquiry you say—"each year after the first year the most you have to do is to visit each tree and cut out any straggling limb which seems to be out of place etc." I have two nice apple orchards, growing, also 100 peach trees, all bought at Rochester, N. Y. Some of these were set three years ago and some two. Each year I have been very careful to cut back nearly all the branches. Am I on the wrong track?

On page 3 you say, "be careful not to cut away too much wood in any one year, etc." These trees are 1, 2 and 3 years old.

Kindly inform me whether or not to cut my trees back from now on, or shall I only cut out straggling limbs and any that may extend too far in any direction.—G. W. Ellithorp, Ind.

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I'm Sick of the City, Sary.
By H. H. Johnson, Sent in by Daisy Reed, N. Y.
I'm sick of the city, Sary; I sigh for the old farm home,
For a sight of the fresh, green pastures where the cattle used to roam;
I sigh for the dear old homestead where we have been so happy, wife;
Twas foolish in me to sell it; 'Twas the blunder of my life.

I'm sick of the city, Sary; I wish we were back agin'
A plantin' an' a hoein' an' reapin' an' gittin' the harvest in,
A seein' the trees a leavin' and the corn a tassel out,
And watchin' the grass in the springtime, to see it beginnin' to sprout.

I'm sick of the city, Sary; the houses are standin' so thick;
You look any way you're a mind to, there's nothing but mortar and brick;

I'm sick of the city, Sary; I'm sick of the noise an' the crowd,
I'm sick of seein' the poor folks oppressed by the rich an' the proud.
I want to be back in the country, where there ain't so much show an' pretense,
Where character makes a man honored, instead of his dollars and cents.

I'm sick of the city, Sary; It ain't what we thought 'twould be;
The rustle an' roar of business aint meant for such plain folks like we,
It sets all our nerves in a quiver, an' gives us a shock of affright,
To wake up an' hear such a clatterin' along in the dead of the night.

Midnight.

By C. A. Green.

I think it is in Hamlet, where Shakespeare says: "It is now the witching hour of night when graveyards yawn and hell itself, breathes out contagion to the world." It is indeed the witching hour. While I am a good sleeper, I sometimes awaken at midnight. How active then is my brain. I think of the sleeping multitude in the city below, many in haunts of vice, many couched beneath trees and shrubbery in the open park or field, others snugly ensconced in happy farm homes scattered widely over this vast continent. Now the burglar steals from behind the dark shadows and watches intently to discover whether he may safely enter the dwelling or bank which he has been planning for days or weeks to plunder. Now the incendiary prepares the slow, burning torch which is to ignite the home or factory, the proprietor of which has displeased him. Now the thrower of bombs places the destructive package where in a few moments, which enables him to flee to a safe distance, it will do the greatest destruction in blowing up the building in which innocent people are sleeping.

Unable to control my thoughts, I arise and pass to the window, looking out upon the stars. How beautiful they are in their azure setting. What thoughts they suggest. Not far away is the cemetery, city of the dead, containing 50,000 population. I hear a cry. Is it a woman in distress? No, it is the screech owl searching for his prey. Far away over the hills I hear the crowing of the cockerel and then answers from other cockerels far and near, sounding like a midnight serenade. In the shade tree near my window, a sparrow is talking in its sleep. It is but a brief song, but it quiets my nerves as I return to my couch and soon fall asleep.

THE RIPENING OF FRUITS.
Its Artificial Regulation is Bridging Time and Distance.

The practices of modern commerce in regard to the artificial ripening of fruits furnishes a subject for comment in The Journal of the American Medical Association. With the growing knowledge of what the ripening of fruits really involves, says the writer, we are certain to acquire better ideas of what a properly ripened product should really be.

We are told why unripened (Winter) apples are unfit to eat in early Fall; it is because instead of sugar they contain a large amount of raw starch, which will disappear with the "mellowing" process. This is now understood in a more intelligent way than heretofore. With this increased knowledge, those who handle fruits commercially are enabled to regulate and facilitate the processes of ripening by artificial means, and hence it becomes possible to dispel the limitations hitherto placed by seasons and distance. Says the writer:

"The place which fruits are assuming in the dietary of man is one of growing importance. Certain species, like the apple and pear, the plum and the grape, have long enjoyed a deserved popularity; others which were once among the rarities in the United States are now finding widespread favor. Melons and other fruits are now being shipped by water from the tropical regions where they are grown in every region of America. In Great Britain, where they were little known less than two decades ago, they are now the 'poor man's fruit.'

"The ripening of fruits plays so important a part in their availability and in some of the problems of transportation, that authentic information on this subject is much to be desired. Some fruits, like

GREEN'S FRUIT GROWER

AN ILLUSTRATED MONTHLY JOURNAL

GREEN'S FRUIT GROWER CO., Publishers

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Subscribers who intend to change their residence will please notify this office, giving old and new addresses.

Entered at Rochester (N. Y.) Post Office as second class mail matter.

Newest Notes of Science.

The United States imported fruits and nuts worth \$90,000,000 in the last fiscal year.

In a new oven invented by a Denver man meats are cooked in air heated by electricity and compressed by a motor-driven pump, which is claimed to reduce shrinkage to a minimum.

An electroscope for detecting the presence of radium discharges, so delicate that it measures current strengths as small as one ten-trillionth of an ampere, has been made in Paris.

Following an old custom, most of the monuments in a cemetery in a Maine town bear on one side photographs, suitably protected against the weather, of the persons buried beneath them.

The death rate in the Canal Zone so far this year has been 21.18 per thousand of population as compared with 49.94 per thousand the year before the United States began its control.

Throughout the world one-fourth of all children die before 6 years of age, one-half before they are 16 and only one in each 100 lives to the age of 65.

A motor driven plow of English invention automatically guides itself over a field after it has plowed the first furrow under the direction of a human mind.

A handy new fire extinguisher for house-hold use contains two liquids which, when combined by turning the device over, ejects a heavy flame-smothering foam.

The double track electric railroad which is being built between Tokio and Yokohama will be the most up-to-date in the Orient when finished early next year.

Colored glass hoods, to be slipped over incandescent lamps and fastened with clips, have been invented for temporarily changing the colors of electric lights.

A telephone which is claimed to be explosion proof and flame proof has been invented in England for use in mines or anywhere that explosive gases or liquids are present.

The Farmer Who Retires.

The farmer who plans to "retire" and go to the city must be sure he knows what he is doing, says The Farmer's Guide. He must agree to give up the farm so far as it applies to city living. He can still own and control his farm but he can't "farm" if he has "retired." Unhappiness is not to be thought of, but it is a very unwelcome visitor when it does come. An unhappy farmer living amid the roar and bustle of the city with nothing but brick walls for a horizon and high board fences for boundaries is to be pitied. It is as if his farm were still there, but, lo! it has magically shrunk to the dimensions of a common barn lot! No, you can't make the city the country. It would be nice if you could, for it would give the city residents some idea of what real freedom is and a taste of real living. The rural dweller knows what it is, and this same fellow may later have the very peculiar feeling come over him that he would like to go by the name of a "retired farmer," but he must be very, very sure whether he wishes to give it all up.

BETTER POSITION.

And Increased Salary as a Result of Eating Right Food.

There is not only comfort in eating food that nourishes brain and body but sometimes it helps a lot in increasing one's salary.

A Kans. school teacher tells an interesting experience. She says:

"About two years ago I was extremely miserable from a nervousness that had been coming on for some time. Any sudden noise was actually painful to me and my nights were made miserable by horrible nightmare."

"I was losing flesh all the time and at last was obliged to give up the school I was teaching and go home."

"Mother put me to bed and sent for the doctor. I was so nervous the cotton sheets gave me a chill and they put me in woolens. The medicine I took did me no apparent good. Finally, a neighbor suggested that Grape-Nuts might be good for me to eat. I had never heard of this food, but the name sounded good so I decided to try it."

"I began to eat Grape-Nuts and soon found my reserve energy growing so that in a short time I was filling a better position and drawing a larger salary than I had ever done before."

"As I see little children playing around me and enter into their games I wonder if I am the same teacher of whom, two years ago, the children spoke as 'ugly old thing.'

"Grape-Nuts food with cream has become a regular part of my diet, and I have not been sick a day in the past two years." Name given by Postum Co., Battle Creek, Mich. Read "The Road to Wellville," in pkgs. "There's a Reason."

Ever read the above letter? A new one appears from time to time. They are genuine, true, and full of human interest.



That Ancient Feeling.

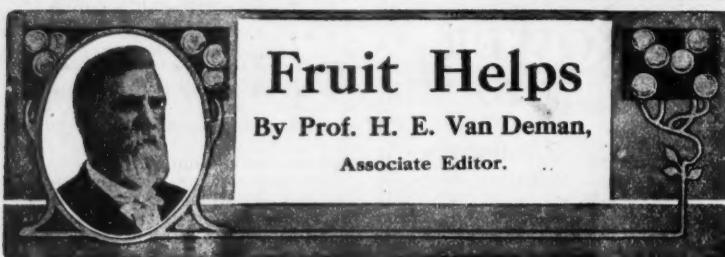
First freshman (at football game)—I've yelled so hard, I feel like the Centaurs.
Second child—How's that?
F. F.—Half Horse.—Yale Record.

Where to Look for Laborers.

Will you do us the favor of kindly drawing the attention of your readers to the large number of able-bodied and willing-spirited men, who are seeking employment through the Bowery Mission Free Labor Bureau.

We have received the above request from The Bowery Mission and Young Men's Home, No. 227 Bowery, New York City. This Mission is a worthy enterprise managed by a number of noted philanthropists of the East. Green's Fruit Grower takes pleasure in calling attention to the fact that those requiring men to aid them in their work stand a chance of securing them by applying to the Bowery Mission as above.

Bear in mind, however, that no one can guarantee satisfaction from the men they secure in this manner. But you can rely upon what the Bowery Mission tells you. There must of necessity be some risk in engaging laborers no matter where they come from.



Fruit Helps

By Prof. H. E. Van Deman,
Associate Editor.

FRUIT WEEK AT WASHINGTON, D.C. Report of American Pomological Sessions.

Editor Green's Fruit Grower:—There was a notable gathering of the fruit and nut growers of the country at Washington, D. C., from the 17th to 22nd of November last. The American Pomological Society, the Eastern Fruit Growers Association, The Northern Nut Growers and the Society for Horticultural Science all met together there at that time. There were also extensive exhibits of fruits and nuts. All the meetings and exhibits were in the beautiful new National Museum, which was a most commodious and fitting place for them.

Mr. L. A. Goodman of Missouri, president of the American Pomological Society, opened the series of meetings and the blessing of the Great Creator was invoked by Dr. Jos. T. Kelly of the Presbyterian Church. The address of welcome was from Mr. Wm. A. Taylor, Chief of the Bureau of Plant Industry of the U. S. Department of Agriculture, in which he happily alluded to the fact that this city was largely the property of the people of the nation and that the members should feel at home. It had been 22 years since the last meeting of the society here and in that time there had been amazing progress in American fruit and nut growing. There had passed away in that time many of the older members of the Pomological Society, notable among them William Saunders of this city, who had, among other things he did for American pomology, introduced the navel orange from Brazil, and thus almost created the main citrus industry of California and blessed the entire country. The responses of Mr. G. L. Taber of Florida and Prof. W. T. McCann of Canada were delightfully made.

There was a display of fruits and nuts that represented many sections of the country, from Canada to southern Florida and from ocean to ocean. The best commercial exhibit was of boxed apples from Virginia. There were several extensive collections of crossbred seedling apples from the Experiment Stations, including those of Canada, New York and Missouri and several smaller lots from private experimenters and chance seedlings. These efforts to produce new apples of superior qualities showed material progress. The Delicious apple was shown to great advantage in several exhibits. There was a large number of varieties of citrus fruits from northern Florida which were mostly the result of crosses made by officials of the U. S. Department of Agriculture between the sweet or edible oranges and the citrus trifoliata, which is a very hardy species that bears small and acid fruit. There were among them some varieties that may prove hardy enough to withstand slight freezing and bear edible fruit, but none of them equal in quality the ordinary oranges. There was a very large assortment of grapes, many of them being foreign varieties grown in the experiment vineyards of the government in California. The most attractive exhibit of all was that of tropical and semitropical fruits from Miami, Florida. It included all species of citrus fruits known to culture and many such things as the cocoanut, pineapple, caraman, papaya, avocado, sapodilla, carissa and many more that are rarely seen except in the tropics where they grow. In this collection were two very large clusters of pomelo (grape fruit of the markets) and a number of single specimens from trees that I had planted on property in which I am largely interested, and they were so beautiful that not only the visitors were charmed but I was surprised and very proud of them myself. The exhibits of pecans, walnuts, chestnuts and other nuts was large and deeply interesting, showing in part that the northern and eastern states are producing good nuts as well as the southern and western sections, although in far less quantities as yet. The possibilities in the way of good and productive varieties of the Persian walnut, the Shagbark hickory nut and our native hazels are only dreamed of as yet.

The first topic of discussion was: "Some Problems The Practical Orchardist Must Meet," by S. H. Fulton of West Virginia. As he is in direct charge of one of the large commercial orchards in the upper Potomac region he knows from practical experience about the troubles that beset the fruit grower. He found that to prune

before severely cold weather damaged the trees, and that it is much safer to prune towards spring, although it gives less time in which to do the work. Spraying with the ordinary style of compressed air machines has made necessary much difficult and expensive hauling of them about to refill and recharge with compressed air. He finds the style called "airtight" machines a great saving in this respect because the charging is done in the orchard and the filling with mixtures may be done at stations.

The early spring stirring of the soil, which is very desirable to conserve the moisture in the soil, is almost impossible to do in good time with the teams that are kept on the farm by plowing, and the use of the disc machines is found to be more expeditious, at least on some of the ground. The tractors are not yet made so as to be practical. Commercial fertilizers are very good but after extensive trials he found that nitrogenous ones were what did the most good and this element can be obtained the cheapest by growing the legumes as much as possible and supplementing with nitrates to make them and the trees grow more vigorously. Lime is also very beneficial on his land. Marketing the crops is a serious problem and every means that will help to place only the fine grades on the market should be used. Then the consumer must get them laid down cheaply. "Apple Day," October 21st, has been dedicated to the exploitation of this fruit and it has done good. The free distribution in the city schools of good apples on that day and other like demonstrations are helpful in creating an appetite for and knowledge of the fruit. Getting and keeping good laborers is another serious matter and plans should be laid to have the work distributed as much as possible during the entire year, by growing a variety of fruits. Good tenant houses tend to keep good laborers.

"The Grape Industry of the United States" was treated in a most able manner by Mr. G. C. Hasmann, Viticulturist of the U. S. Department of Agriculture. He spoke of the ease with which grapes are grown, their healthfulness, and the lack of the fruit nearly all over the country among the very people who could have plenty of them at home. The manufacture of grape juice or unfermented wine should be greatly increased so that it could be used far more commonly than is at present possible, because of the high prices asked for it. The lowest temperature that will kill the germs that cause fermentation beyond all question is 180° F. but very often lower temperatures will do it, down to 150° F. The flavor is injured by too much heat in sterilizing the juice. No sugar should be added if the best grape flavor is to be preserved.

The grading and packing of fruit came in for a liberal share of attention from several speakers well able to discuss it. Mr. R. G. Phillips of New York, secretary of the International Apple Shippers' Association made the statement with emphasis that the western growers and packers sent almost no low grade fruit to market while those in the east marketed everything they had, no matter how poor. They ruined their own business by doing so and hurt the whole trade in fruits. They have absolutely no restrictions on grades except that they be marked according to what they are and even this mild provision is often violated.

Mr. E. H. Shepard of Hood River, Oregon was not present, but sent a paper that laid much stress on the great value of organization for all fruit growers. They can accomplish in this way what they never could by any other means. It is this that has very largely made fruit growing the success it is in the West, and they have lately united in a general union that covers the entire northwestern region. The clashes and gluts incident to promiscuous distribution will be eliminated by this means.

"Horticulture in the Mimbres Valley," by W. E. Holt, of New Mexico, gave very encouraging news of the progress of fruit growing in that arid but yet well watered region. He stated that apple growing was quite well established as an industry there when the Pilgrims landed at Plymouth Rock, and it was from there that some of the finest apples ever shown at the great expositions had been grown. Pears, peaches and grapes flourish there remarkably well and are of the highest quality.

Dr. S. W. Fletcher, the director of the Virginia Experiment Station, discussed "Eliminating Unprofitable Trees from an Apple Orchard." He gave facts from his own orchard as a carefully kept record of each of several thousand trees had shown them. A little over 17 per cent. had not been profitable. Of these the wooly aphid had been the chief hindering cause and this had been overcome almost entirely by using tobacco in the ground and sprays above when the insects were there. He had not seen anything to lead him to believe that a bad pedigree had any influence in causing unproductiveness, but that local ailments, poor soil or inattention were chargeable with the failures.

Prof. F. W. Card of Pennsylvania on "Business Adjustments for the Fruit Growers" made it plain that there is great need of diversity in the business and not specializing too much. It distributes the labor and the returns and makes it far less possible to sustain wholesale or entire losses of crops by frosts or any other natural causes.

From the Philippines came a report of the tropical fruits by P. J. Wester the official horticulturist of those islands. He stated that the cocoanut gave the greatest revenue of any product grown there, not excepting sugar and Manila hemp, which once were in the lead as exports. The meat of the nuts is dried and sent to civilized countries, that the oil may be made into soap and used in many other ways. The banana is the chief fruit used as food, of which there are over 100 varieties belonging to five botanical species. Some of them are very small and soft but of the most delicious flavor, while others are very large and hard and are used only when cooked. The papaya is another very common fruit and grows almost without care, as does the guava and mango. But there are only three kinds of mangoes that are really good, except that very lately the Experiment Station has introduced many choice varieties from India and elsewhere, and the effort is being made to induce their propagation by grafting and budding. The culture of citrus fruits is greatly neglected, only the mandarin being given much attention. The pineapple is grown mostly for the fibre of the leaves. However, the American residents are planting the Smooth Cayenne and some other choice varieties in a commercial way with the intention to can the fruit for export. There are a great many other fine fruits growing there, many of them native, but they are treated in the most neglectful manner. "Philippine pomology may be said to be scarcely in its infancy as yet" and the possibilities for a canned export trade and the production of the chocolate bean are almost boundless.

West Indian Pomology was described by Mr. H. C. Henricksen of Cuba and Jamaica in a very intelligent way. He stated that there was little done except to gather and eat what grew almost without care until after the late war with Spain. Since then the people of this country have taken up fruit culture in a business way and have planted extensive orchards of oranges and pomelos and large pineapple fields. The same is true in a measure on the Isle of Pines. In Porto Rico the same is being done even more enthusiastically. The culture of the chocolate bean or cacao might be taken up in earnest but as yet little is done with it for the natural conditions are very favorable. The papaya, guava, avocado, sapodilla, and many other fruits grow well but are little cared for. The improved varieties of the mango are being introduced by American fruit growers. In Jamaica everything in the way of fruit growing is done in a very small way and mainly for local use, although some fruits and cocoanuts are exported.

"Alaska's Pomological Resources" was the subject of a very interesting report from Prof. C. C. Georgeson of Sitka, director of the Experiment Stations of that territory. He told of a native crabapple that is growing quite abundantly in the coast country and the fruit is used by settlers and natives too, to some extent for making jelly. Cultivated crabapples grafted on it as a stock do quite well and in a few places the hardy apples, such as Yellow Transparent. Cherries have been grown in a very small way, but plums, pears and grapes are entire failures. The bush fruits and strawberries do very well. The Cuthbert and other red raspberries bear abundantly, but not the black caps or common blackberries. Gooseberries and currants flourish and there are many growing wild that are edible. When I was there a few years ago, Prof. Georgeson showed me a large number of crosses he had made between these native bush fruits and strawberries and some of our best cultivated varieties that looked very promising. The cranberry and several species of blue berries or huckle berries grow and bear fruit in the coast country very abundantly. The interior or Yukon country is a very different region, and what will flourish there in the way of fruits is yet mostly unknown. "Alaska

has little in the way of practical pomology as yet but has great possibilities," is the essence of this report.—H. E. Van Deman.

Answers to Inquiries.

Raising of Flowers.

Prof. Van Deman:—I am thinking of growing flowers for the market in this section and want what information you can give me on the subject. What flowers are most in demand?—M. R. H., Okla.

Reply: The cut flower business is a good one where there is sale for the flowers, but that all depends on so many local circumstances that it would be impossible to give good advice without investigation. If there are rich people living in one or more cities not far away they will buy flowers. Those grown in greenhouses and out of the regular seasons for outdoor flowers will find the best market. Roses, carnations and violets are the most popular.—H. E. V. D.

English Walnuts in New Mexico.

Prof. Van Deman:—We have land located in the lower Pecos valley near Loving, New Mexico, and want to know the possibilities of English walnuts in that section.

This land is located under the Carlsbad irrigation project and can be watered.

Can English walnuts be grafted on to native roots or black walnuts?—A. W. H., Okla.

Reply: It is quite likely that the Persian (English) walnut will succeed in the Pecos valley in New Mexico. There is a native walnut growing in some of those western valleys that is one of the best stocks for grafting or budding the Persian walnut on that I have ever seen. I have tested it out quite well. It may be found in the lower Pecos valley. I know it is in some parts of southwestern Texas and Oklahoma and extends to Arizona, but is not a very common tree.—H. E. V. D.

Pear Blight.

Prof. Van Deman:—In the September number of Green's Fruit Grower, in C. A. Green's account of his interview with Mr. Bell, the latter mentions the fact that tender, fast growing shoots on pear trees are more susceptible to blight than slower growing branches; also he says that to avoid a rank growth he cuts back each season's growth during the dormant season. Now my experience has been—and I supposed it was an accepted rule among fruit growers generally—that pruning during the dormant season encourages wood growth. For example, I have a Kieffer pear tree in my yard which the first few years after planting I cut back, each season while dormant, quite severely, probably one-half or two-thirds of the last season's growth, and each season it made a growth of from two to three feet; while after discontinuing the annual pruning, one season's growth was scarcely half that of what it was before. How do you account for the difference—i. e. in my case and in that of Mr. Bell—as to the effect of winter pruning? Now the question is, considering the effect on my trees of this annual pruning as above mentioned, would you advise such treatment? If so, will it tend to keep off the blight? Pear blight is quite prevalent in this section and any information along this line will be greatly appreciated.

2. I am thinking of planting about a dozen Persian walnut trees next spring. I am about sixty miles east and sixty miles north of Indianapolis. Do you think they will succeed here? Several years ago I planted two pecan trees which were labeled Stuart. They have withstood 22 degrees zero F. and are doing finely thus far.

3. Do you consider two-year-old black raspberry plants as good for planting—if not too large—as the tips of one season's growth?—Riverside Fruit Farm, (Adams Co.) Berne, Ind.

Reply: It has always been my belief that cutting back fruit trees during the dormant season tended to stimulate nature to make new growth to replace what was cut away. This will induce blight on pear trees, because the rank, tender shoots will give the germs better chance to enter the vital parts than if they were not so rank. I would want my pear trees to make a fair growth each year and as early in the season as possible and ripen their wood early. If pruned moderately they should bear well and this will prevent excessive growth. I prefer to prune in midsummer.

2. It is doubtful if the trees of Persian walnut will be hardy in northern Indiana, but they might be if the hardiest kinds are planted and those grafted on native walnut stocks. The Pomeroy, Rush and a few others are hardy in New York and Pennsylvania, but the winters are much more trying in northern Indiana. Only a few trees should be planted as a trial.

3. Two-year-old black raspberry plants are all right to set out.—H. E. Van Deman

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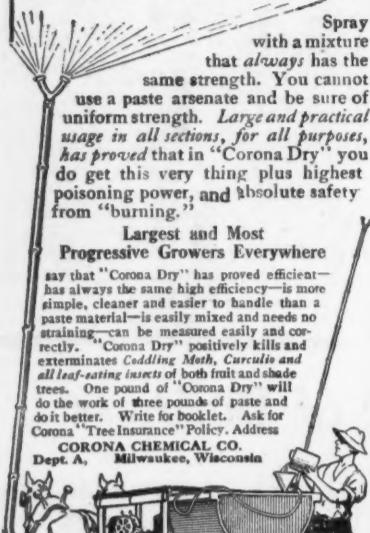
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The Orchard Site.

Written for Green's Fruit Grower by
M. Roberts Conover, N. J.

The favored orchard site is the sloping or knolly fertile tract, although there can be no objection to a level fertile site well-drained as to surface and subsoil and open on at least two sides to give free passage of air currents, for the vulnerable parts of a tree with regard to climatic and atmospheric conditions are the roots, buds and tender branches.

The health and endurance of the roots depend upon good drainage. Ground that is low or springy holding water about the roots during part of the fall or winter will prove fatal to some of the trees if not to the greater number of them. The absorbing power of the numerous rootlets is in abeyance. When the leaves are off the trees and though these rootlets have hardened somewhat they cannot with-

field sloping from the brow of the hill is an ideal orchard site as to land and air drainage. Air currents draw across the lower lands which offer no menace to an orchard in such a location.

What plant we in this apple-tree?
Sweets for a hundred flowering springs,
To load the May-wind's restless wings,
When from the orchard-row, he pours
Its fragrance through the open doors:
A world of blossoms for the bee.

—Bryant.

Rochester Leads in Peach Shipments.

With 373 cars shipped, Rochester took second place as a peach shipping point on the New York Central this fall, and the New York Central hauls more peaches than all of the other railroads in western New York combined and multiplied by ten, railroad men say. Barker, on the R. W. & O., led with 447 cars, and Webster, Union Hill and Seneca Falls tied



A hill side or a hill top of the above farm as shown on the photograph are good sites for an apple or peach orchard. The low land in the foreground occupied by shocks of corn are not as desirable for the planting of any kind of an orchard as are the more elevated sites.

stand decay in ground soggy enough to exclude the air. Spring finds such trees without sufficiently sound root areas to send forth new roots to meet the demand of the tree, hence it dies.

This condition may occur on land with hard clayey subsoil which tends to hold water in the region of the roots. The only safe method is the use of a subsoiling plow in preparing the soil and close observation of the action of water upon the land.

The damage to buds and blossoms by spring frosts is increased by insufficient air drainage. This condition may prevail on high as well as low ground if the site is basined about by hills and woods.

as tail enders with one car each. Considerably more than 4,000 cars of peaches were shipped, says Post Express.

The shipments from western New York points this year were 817 cars in excess of last year. Rochester showed an increase of only 11 cars over 1912, while Barker's increase was 226, or more than 100 per cent. Brockport shipped only eight cars this year, compared with 105 last year, and Holley shipped only eight, as against 100 last year. Spencerport and other stations also showed a large decrease.

Until this year Greater New York has always been the largest single consumer of peaches from western New York, but



This thrifty orchard is planted on a slope considerably higher than the lowland adjoining. It would probably make a profitable orchard but I would have preferred to have located it on a still higher elevation.

Prevention lies in the choice of land above those in which the cold air lies undisturbed by a breeze. It is easy to determine the areas of poor air drainage by noting the position of vapor masses on damp still mornings.

The damage to twigs and branches by sun-scald, due to the quickening of the tree in mild winter weather followed by severe freezes, will be less with susceptible varieties if the chosen site is not a warm southern exposure.

Illustration One shows a valley. An apple orchard appears in the distance at the right. At the left of this beyond the cornfield is a peach orchard on the margin of a marsh. The apple orchard and a woods shut off air currents on one side as do the hills on the other sides leaving the orchard at the mercy of the frosty chill of cold nights in spring.

Illustration Two shows an apple orchard better located. It lies on a small slightly undulating plain below a hill with lower land areas on two sides. It is frost proof except under extreme conditions. A

this year smoky Pittsburgh extended its hand, clutched and secured the crown, with 688 carloads, or 119 more than Greater New York. Ohio cities took a large quantity, Columbus leading with 85 cars, and Cleveland a close second with 75. Chicago, with a previous high record of five cars, registered last year, took 46 cars.

Some of the shipments from nearby villages and cities were as follows: Hilton, 228; Morton, 218; Albion, 137; Hamlin, 96; Sodus, 55; Middleport, 48; Ontario, 44; Barnard, 41; Brighton, 26; East Williamson, 24; Charlotte, 17; Geneva, 8; Adams Basin, 5; Greece, 5; Wolcott, 4.

We must be as careful to keep friends as to make them. The affections should not be mere "tents of a night." Friendship gives no privilege to make ourselves disagreeable.—Lubbock.

The coldest weather does not kill the insects. Therefore spraying is the safest method of killing them.

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Thoughts for the New Year.

No one is useless in this world who lightens the burden of it to someone else. How soon a smile of God can change the world—how we are made for happiness—how work grows play, adversity, a winning fight.—Robert Browning.

Oh, do not pray for easy lives—pray to be stronger men. Do not pray for tasks equal to your powers—pray for powers equal to your tasks. Then the doing of your work shall be no miracle but you shall be a miracle. Every day you shall wonder at yourself and at the richness of life which has come to you by the grace of God.—Phillips Brooks.

I resolved that, like the sun, so long as my day lasted, I would look on the bright side of everything.

Some men move through life as a band of music moves down the street, flinging out pleasure on every side through the air, to everyone far and near that can listen.—Henry Ward Beecher.

The best definition of "a friend" is, "The first person who comes in when the whole world has gone out."

Half the world is on the wrong scent in the pursuit of happiness. They think it consists in having and getting, and in being served by others. It consists in giving and serving others.—Henry Drummond.

I shall pass through this world but once. Any good thing, therefore, that I can do, or any kindness that I can show to any human being, let me do it now. Let me not defer it or neglect it, for I shall not pass this way again.—A. B. Hegman.

The pleasantest things in the world are pleasant thoughts, and the great art in life is to have as many of them as possible.—Bovee.

If you have a friend worth loving, Love him. Yes, and let him know that you love him, ere life's evening Tinge his brow with sunset glow.

Are you happy now? Are you likely to remain so till this evening, or next month, or next year? Then why destroy present happiness by a distant misery which may never come at all? Every substantial grief has twenty shadows, and most of them shadows of your own making.—Sydney Smith.

When true friends meet in adverse hour, 'Tis like a sunbeam through a shower, A watery ray an instant seen, The darkly closing clouds between.—Sir Walter Scott.

It is not written, blessed is he that feedeth the poor, but he that considereth the poor. A little thought and a little kindness are often worth more than a great deal of money.—Ruskin.

Let us beware of losing our enthusiasm. Let us ever glory in something, and strive to attain our admiration for all that would ennoble, and our interest in all that would enrich and beautify our life.—Phillips Brooks.

Let us have faith that right makes might, and in that faith let us to the end dare to do our duty as we understand it.—Abraham Lincoln.

So may the New Year be a happy one to you—happy to many more whose happiness depends on you. So may each year be happier than the last.—Charles Dickens.

Alberta peaches from California and Washington have been selling on the English market from 72 to 78 cents per box, containing 64 to 72 fruits.

After the Newton Pippin the Wealthy is said to be the most popular apple on the British market. After it comes the Russet and then the Spy. The best selling late variety is the Stark. It always arrives in good condition and meets with a ready sale. After February, the market for Ben Davis is good and they should not be shipped before that time.

Prices of Apples.

Mr. C. A. Green:—Your correspondent (page 8, December, 1913.) has a poor appreciation for good apples when he expects to get them and a barrel, for \$2.00 or \$3.00. The barrel costs 35 cents, packing 15 cents and hauling to train 10 cents, making 60 cents expenses, leaving \$1.90 to \$2.40 for the apples, or 60 to 80 cents a bushel. I am getting from \$1.00 to \$1.50 a bushel for my apples in New Castle, Pa., so it is not likely I will send Mr. Thatford any apples.

I have earloads of apples for sale. I am a Green's Fruit Grower subscriber. J. C. M. Johnston, New Wilmington, Pa. Baldwin, Spy, Greening, King, Ben Davis.

The Delicious Apple in the East.

It has been over thirty years since there came up a little seedling apple tree by chance in central Iowa on the premises of Mr. Jesse Hiatt, one of the veteran horticulturists of Iowa, now deceased, and it flourished so well in that cold climate that he let it grow. When it came to bear the fruit was so handsome and of such good quality that he had others try it and they agreed with him.

Then it was taken to the fruit shows and finally came to the notice of the Stark Bros. of Missouri, who in 1895 bought the sole rights to propagate the variety in their nursery. Since then the young trees have been planted by the million in all the apple growing sections of this country and foreign lands as well. There is not a place where I have seen it growing nor have I heard of one where the Delicious is not liked. The trees bear early and abundantly and the fruit meets with favor at home and in the markets. No apple brings better prices and few kinds as much. More of it has been produced in the far western states so far than this side of the Rocky Mountains, because fruit trees come into bearing there earlier, but there has been no trouble about those bearing in the east that have been old enough. And the fruit that I have seen has been very highly colored and of the best flavor of any of the variety that I have tasted so far, although the size was not so large as those from the west. I fully believe that there is no question about the tree value of Delicious for eastern planting.

The fruit is of full medium size or a little above it, very beautifully colored with suffused and striped red over a yellow under-color. The shape is conical and often much wrinkled or puckered at the apex, which is in some cases rather an objection. The flavor is very mild sub-acid and truly delicious, being very aromatic and pleasant to the taste. More growers ought to plant the trees so that there would be more of the apples for home use and plenty to sell.—H. E. Van Deman.

The Fifty-Ninth Meeting of Western New York Horticultural Society, January 28, 29, 30 and 31.

Program.

Prof. S. A. Beach, of Iowa State College of Agriculture, will speak on "The General Outlook for the Apple Industry."

Calvin J. Huson, State Commissioner of Agriculture, subject, "The Fruit Industry of New York."

Professor U. P. Hedrick, will speak on, "The Outgo and Income of a Ten Acre Orchard."

Dr. Jacob G. Lipman, Director of New Jersey Experiment Station, "Soil Fertility that must be Answered by the Fruit Grower."

Dr. Reddick, will give a report on, "Troublesome Diseases of the Past Season" also "Apple Dusting Experiments."

George Friday, a well known Michigan peach grower will give a live talk on the subject of "Peaches."

W. S. Teator, of Upper Red Hook, of Blue Ribbon apple fame, on "Growing and Handling of Fine Apples."

Professor Parrott, will give an attractive and instructive talk on "The Season's Results in Spraying."

At this time he will discuss the orchard leaf-roller, give suggestions as to the choice of spraying mixtures for 1914, and deal with the much talked of subject of the parasitism of the San Jose scale and the practicability of introducing the parasites into New York.

George T. Powell, of Ghent, N. Y., will discuss, "On what practical basis may communities, fruit growers and farmers co-operate, and, through parcel post and otherwise, reach the consumers with less cost in marketing?"

Dean Hugh Baker, New York State College of Forestry of Syracuse, subject, "The Reforestation of the Genesee Valley."

"Improved Grading, Packing and Marketing" will be explained by Seth J. T. Bush of Rochester, and Dr. James A. Bissel, of the New York State College of Agriculture, Ithaca, will speak on "New Nitrogen Fertilizers."

Dr. W. H. Jordan, who has spent several months in European travel, will discuss "European Contributions to Agricultural Progress." Other speakers will be Roland B. Woodward, Secretary of Rochester Chamber of Commerce, and Lewis A. Toan also of Rochester.

There will be a fine stereoptican exhibit "A walk through the Genesee Valley Orchard" by Samuel Fraser of Genesee.

The Barry gold medal will go to James A. Morgan of Scottsville, for a new strawberry originated by him. A sterling silver cup and more than \$300 in cash premiums will be distributed for apples in boxes and barrels, pears and apples on single plates, and grapes, vegetables, canned fruits and jellies of any kind made by the wives or daughters of members.

Guinea fowls are the most persistent bug eaters of all the poultry tribe. And they are good eating too—the guineas.

Oils distilled from the needles of spruce and fir trees are being used to scent petroleum floor oils which are sometimes objectionable on account of their odor.

If you must brag a good deal, be a press agent and get paid for it.

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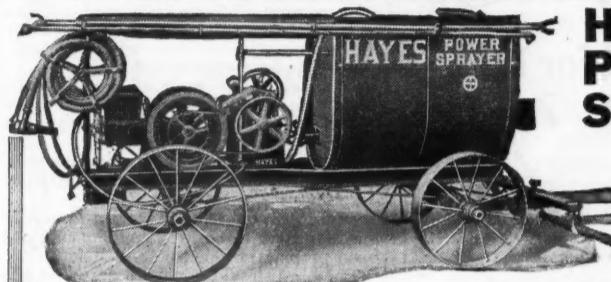
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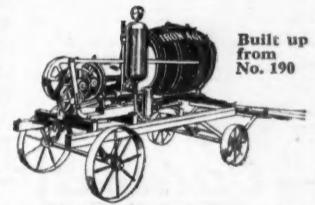


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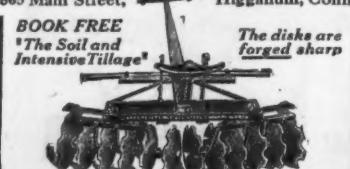
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FARM DEPARTMENT



Some Hints About Horseshoeing and Broken Knees.

Written for Green's Fruit Grower by
F. H. Sweet, Va.

The average growth of the hoof is about one-third of an inch a month. Hind hoofs grow faster than fore hoofs, and the shoe somewhat retards the growth. Lack of exercise, dryness of the horn and excessive length retard the growth also.

At the toe of the average normal hoof the horn grows from the coronet to the ground in about twelve months, at the sides in from six to eight months, and at the heel from three to five months.

Knowledge of these facts enable us to estimate the probable time required for the disappearance of such defects as sand-cracks, quarter-cracks and clefts.

In shoeing, the wear of the old shoe should be carefully noted to enable the farrier to level the hoof. This done, the hoof sets evenly on the ground.

In case of founder the grounding wear is more pronounced at the heel than in the sound horse.

Where the old shoe is worn thinner on one side than the other, the hoof had not been properly leveled before shoeing.

The bars should never be pared on the sides. The frog should not be touched. If it be too dry and hard and very prominent, it should be softened by moisture in some form and allowed to wear down instead of being pared. The sharp, lower border of the wall should be rounded with a rasp to prevent its being bent outward and broken away.

The branches of the sole in the angle between the bars and the wall of the

shoeing, it has been atrophied; it gives to the hoof an increased surface of support, and relieves one or both quarters of undue pressure that may have induced inflammation and soreness.

The bar should equal the average width of the remainder of the shoe, and should press but slightly on the branches of the frog. The addition of a leather sole, with tar and oakum sole-packing, causes the distribution of the weight of the body over the entire ground surface of the hoof.

An Authority on English Walnuts.

Green's Fruit Grower:—Replies to your letter of the 3d inst. in regard to the statement of your friend, Mr. Krahm of Watonga, Okla., concerning the hardness of the Persian walnut as grown in Italy, I will say that I hardly think the Persian walnut will stand a temerature of 46 degrees below zero in any section of the country. In 1848 I imported trees of the Persian walnut from Scotland and planted them on my grounds in Lee County, Iowa. This is the southern limit of the state. They grew well the first year, but killed down the first winter. They would sprout up again in the spring, but continued to be killed to the ground every winter. We never had the temperature there lower than 20 degrees minus. I am aware that the Persian walnut is grown in Western New York, and has proved quite a success in that section, but I consider it largely due to the modifying influence of the large body of water which is on the northwest of that section. My brother has grown them for a great many years at his home at Winchester, Mass., which is only about



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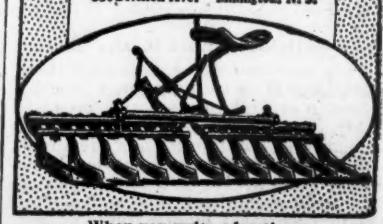
Because it makes a better seed bed than other harrows. It has long sloping knives that cut under the soil, thoroughly pulverizing and mixing it. They level the soil and leave a fine mulch on the surface that holds moisture in the ground.

The roots find nourishment easier in the compact seed bed.

The ACME Pulverizing Harrow is the only tool needed after your plow. It is easier on your horses, while giving better results.

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January on the Farm.

Still plenty of work, for the stock needs unusual care at this season, and bright days should be utilized by going into the woods and chopping and cording more firewood, that should be kept at least a year in advance. Dry wood is cheaper and better than green.

Keep a sharp eye on the barn, the hen house, the wood pile, and the corn crib. To feed well, and to feed large stock so as to make it pay, is the way to make the farm yield well at the end of the year. This fact should be looked squarely in the face. It is as cheap to buy food for stock in the shape of oil meal, as it is to buy food for plants in the shape of fertilizers, and it pays to feed oil meal with all the coarse food we put into our stock. An old saying is: "The more stock the more manure, and the more manure the more crops." And by the way, do not forget to give the cows a bit of salt now and then, or what is better, keep a big lump of rock salt where they can get at it all the time. They need it now as much as they do in the spring and fall, and where are they to get it unless you come to their assistance? You know that more than half the blood is made up of salt in some of its forms, and that it is all the time going off through the skin and the kidneys.

Sort over the roots and apples in the cellar occasionally; a little decay among them means a great deal more unless promptly checked by the removal of the cause. Do not allow snow to accumulate about the poultry houses. Shovel it away, and keep the paths open in the vicinity so that the hens can roam about on bright days. It will do them good. If any of the hens show a disposition to set, furnish them with eggs. Chickens hatched in January or February are apt to be valuable in June.

It is not too early to begin to plan the year's campaign. Decide what you will plant, and where. Some of the worn out fields will probably do better if put into grass for a few years, and some of the grass lands in return will yield a rich harvest of potatoes and corn and other crops. Judicious rotation of crops is one of the secrets of prosperous farming. Make a list of the seeds and tools you will need, and send away to a reliable dealer. There may be a delay of some weeks in receiving them, and by the middle of February you will want to begin planting a few seeds in boxes or cold frames for early vegetables.

It is a great point to get a good start in the new year. The first thing is to know how you stand, and to keep square with the world if you can. There is an old saying, you know, that "If you don't look closely into your own affairs, your creditors will do it for you," and that is apt to be the case when things are left at loose ends. Now if you cannot square up all the bills, it will do no harm to see just how they look in black and white. That is the first step. The next is to aim high, and then come as near the mark as you can. Put life into all the work on the farm, and it will not be so apt to drag. And, above all, do not fall into old ruts. Keep up with the times.—F. H. Sweet, Va.

A Horse's Eleven Requests.

1. Don't pound or beat me.
2. Cover me when I am too warm or too cold.
3. Don't stand me in a draft.
4. Don't overload me.
5. Don't compel me to work when I'm sick.
6. Don't cut my feet too much when I'm shod.
7. Don't over-drive and under-feed me.
8. Remember that I have feelings.
9. Don't water me, when I have been driven a long distance, until I am cool.
10. Talk to me kindly.
11. Treat me as you would like to be treated if you were a horse.

Age of Birds.

While life periods for birds have been variously stated at from two years for the wren to 100 for the eagle and crow, such figures have lacked authority. Professor L. Petit has lately brought to the notice of the Zoological Society of France some birds of accurately known age, and these include a sparrow of eight years, a blackbird of 11, a small cardinal of 14, and an Amazon parakeet of 25.—Chicago Tribune.

Giving Animals Medicine.

I never see a man drench an animal with large doses of liquid medicine that I do not feel alarmed for its life. It is easy to strangle an animal in this way because it is impossible to swallow with the mouth open, and if even a small quantity of the liquid goes down the windpipe death may quickly follow. It is better and easier to give medicine in the feed or in powders by forcing open the mouth with an iron spoon and placing the powder on the back part of the tongue when it will quickly and easily be swallowed.—Exchange.

Animals in Cold Weather.

The wild animal that minds cold the least is, undoubtedly, the rabbit. Indeed, it is said that the rabbit is, of all warm-blooded creatures, the most capable of withstanding very low temperatures. A rabbit which had got into a block of ice was imprisoned there twelve hours. When freedom was finally secured, it began almost instantly to feed.

Hares, too, can stand a lot of cold, so long as they can get food. The Alpine hare, which is found in Cumberland and in Scotland, never seems inconvenienced by the worst frosts. The Arctic fox is another creature which no degree of cold seems to bother. It is one of the very few animals of the Arctic regions which does not hibernate.



The woodchuck is an interesting creature. Though a fur bearing animal, we never hear of prices being quoted for woodchuck skins. Possibly this may be in part owing to the fact, that during the winter season when his hairy pelt might be of some use, Mr. Woodchuck is fast asleep deep under ground on some hillside where red clover grows. The woodchuck seems to sleep more than six months of the year. He is not seen until late in May or early June and often disappears the latter part of August, yet he is always sleek and fat. Young woodchucks are almost as playful as kittens.

Of domestic animals, sheep come first as cold resisters. In a great blizzard which swept Eng. and in 1891, sheep were dug out of the drifts that had been buried twenty-four hours. They were still alive. Next to sheep in cold weather hardiness come goats and then pigs.

Among the birds, thrushes and blackbirds seem able to endure less cold than the finch tribe, of which the house sparrow is the commonest type. The hedge sparrow appears, of all birds, to be the most affected by cold.

Perch enjoy cold weather and freezes, comfortably making their winter homes in lakes that are frozen practically solid. —Our Dumb Animals.

Anarchy never gathered fruit from its own apple tree.

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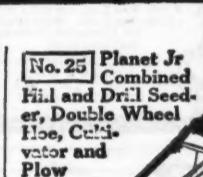
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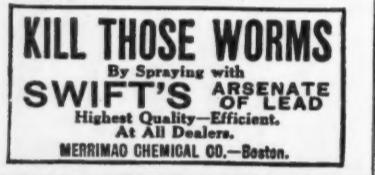
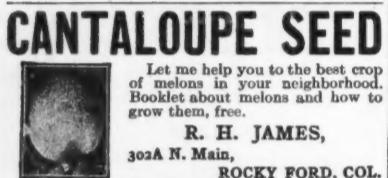
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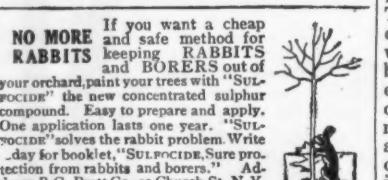
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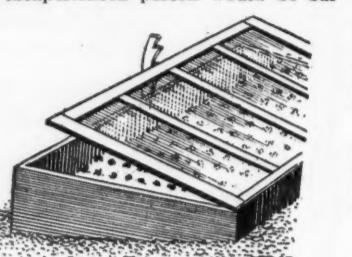
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Cold Frames and Hot Beds.

Written for Green's Fruit Grower.

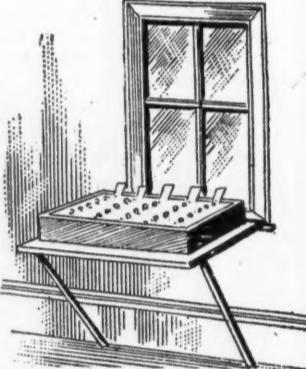
It is not too early to consider the making of cold frames and hot beds. I have seen pansies in blossom in New York state in midwinter when the bed was protected with a cold frame. This cold frame simply consists of a framework or bottomless box covered with glass. This glass-covered cold frame is placed over the bed desiring to be protected and manure or leaves or earth is placed around the outside of the base to keep the cold wind from entering next to the ground. An inexperienced person would be sur-



prised at the warmth and growth of hardy plants inside of such a cold frame during the winter months.

The hot bed is more often constructed on the farm than the cold frame. When living on the farm I was deeply interested in the hot bed. It was a pleasure to see the seeds sprout and grow vigorously when everything outside was seemingly cold and dead.

There is no secret or difficulty in establishing a successful hot bed on the farm. All that is needed is an ample supply of fresh horse manure, which can be stacked to a depth of two or three feet after having been thoroughly trodden down. On top of this a bottomless box is placed and on top of this box or frame are placed the



sash and glass. All should be close fitted to prevent the entrance of cold air and frost.

The surface of the manure is covered with good rich garden soil to the depth of four or five inches. The manure will begin to heat within a week after the bed is completed. The seed should not be sown for several days after the bed is finished. If very cold weather ensues after plants have come up it may be necessary to cover the glass on very cold nights with blankets or matting. It may be necessary to shade the plants on the brightest sunniest days at midday when the air in the hot bed may become too hot. Do not give the bed too much water, which is worse than too little. Plants usually started in the farmer's hot bed are lettuce, radish, tomato, cucumber, melon, egg plant and cabbage.

White Washing Fruit Storage Rooms.

No special formula for whitewashing is necessary, but we have found that in addition to the ordinary lime whitewash that it is advisable to put about a good handful, say two pounds, of Portland cement in each ten-quart pailful of whitewash. The Portland cement should be stirred into each pailful as the whitewash is used. Then add a good size teaspoonful of ultra-marine blue, stirring the cement and ultra-marine blue thoroughly into the ten quarts of lime whitewash. The cement gives the lime a setting quality which the lime does not have when used by itself and the ultra-marine blue is used only to counteract the brown effect of the Portland cement. It is, of course, unnecessary to state that you must not leave any of this mixed cement, and lime whitewash overnight, or the cement will lose its value as a setting agent in keeping the whitewash from flaking or peeling off the walls. Don't put on too thick a coat of whitewash each year. Just enough to cover the surface in good shape, and don't dry the whitewash out too quickly nor too slowly. It should require from one to two or possibly three days to dry out. If it dries quickly it may flake or brush off easily, whereas if it dries too slowly the water will soak into the wood and may cause mould or unpleasant odors.—Cold.

How to Grow Strawberries.

How strawberries are grown in Maryland is told very interestingly in Bulletin 124 of the Maryland experiment station. The strawberry is so peculiar in its adaptability to soil and climatic environment, that it is unwise to recommend varieties except with restrictions, says the writer. A variety will succeed admirably in one locality and fail dismally a few miles distant. It is well to plant principally the varieties which do well in the neighborhood and test new varieties which seem to be promising. We use fertilizers as follows:

Per acre—100 lbs. nitrate of soda, or 75 lbs. sulphate of ammonia, or 250 lbs. cottonseed meal; 90 lbs. sulphate of potash or 95 lbs. muriate of potash, or 400 lbs. kainit; 250 lbs. acid phosphate, or 250 lbs. dissolved bone.

A little variation from the above is: 500 to 1,000 lbs. per acre—500 to 700 lbs. ground fish, bone meal or tankage; 200 lbs. muriate of potash; 1,100 to 1,300 lbs. acid phosphate.

Other amounts sometimes used are:

Per acre new beds—200 lbs. muriate of potash; 600 lbs. dissolved S. C. rock.

Per acre old beds—100 lbs. nitrate of soda; 200 lbs. muriate of potash; 200 lbs. dissolved S. C. rock.

For new beds the fertilizer should be applied in spring, before the plants are set, either broadcast by wheat drill, or otherwise, or along the rows. In either case, but especially in the latter, the fertilizer must be thoroughly mixed into the soil with the cultivator or it may injure or destroy many of the plants.

Woman's Profit With Currants and Gooseberries.

No reason appears why a woman on a farm cannot earn considerable money and not have to work especially hard considering the results. It may be done by raising currants and gooseberries, says The American Cultivator.

In setting out currant bushes, one should be careful to select a place where there is plenty of light and air. They do not require especially fertile soil, but they do need the sunlight and air. If possible do not put the bushes where they will be weighted down by snow in the winter for this breaks the branches.

The ground should be worked thoroughly and very deep before setting out the bushes, for after the planting only a very shallow cultivation can be done, as the currants are a surface rooting plant. Rotted manure is one of the best fertilizers for working into the land, and after the currant bushes have been set out, this will be found excellent as a mulch.

Hardy one year old plants are found to be among the best for starting a new piece. The plants begin to bear the year after planting and come into full maturity in the third year. If they are given careful care, they will produce paying crops for a score of years. Pruning should be done in the early spring, cutting out all the dead and weak branches and heading back the most vigorous growth.

One great advantage about currants is that the fruit does not have to be picked just as soon as it is ripe. It may stay on the bushes for some time without doing any harm. In gathering, the stems are picked with the fruit and put in the cases for sale. An average crop per acre is 100 bushels, although more can be raised if special care is given to the bushes. Currants sell for about ten cents per quart.

It will be seen that the currant is an easy plant to raise as well as a very profitable one. The same is true of the gooseberry. Very few diseases attack these plants. The currant worm can be killed by applying pyrethrum powder. If there is any disease found to be among the branches it is best to break off the affected ones at once, and thus prevent the spread of the trouble.

The methods of planting and caring for the gooseberry plants are practically the same as those used in dealing with the currants. It was formerly thought that gooseberries would do best in a shady place, but this is not true. Mildew will attack them if they are kept shaded. The only thing to prevent this is to have the plants kept open at the top.

Winter Mulch of Strawberries.

Do not forget to apply a light dressing of straw stable manure now over your strawberry bed or larger plantation. This covering is not intended to keep the ground warm or to keep it from freezing. It is intended to shade the ground to prevent repeated thawing and freezing which lifts the plants and breaks the roots doing them great injury. I have known strawberries to be covered so heavily as to smother them, but generally there is not much danger of too heavy covering. Forest leaves are an ideal covering for they do not contain the seeds of weeds and grass as does straw manure. Leaves can be held in place by cornstalks, old tomato vines or brush.



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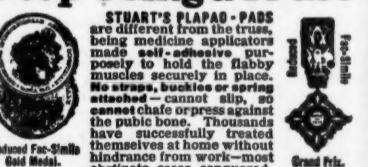
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From an Expert on Cranberry Culture.

Written for Green's Fruit Grower by
Stephen S. Gammons, Mass.

Cranberries are successfully cultivated in the eastern parts of Massachusetts, where there is a suitable location, but I do not know of any cultivated cranberry bogs farther north. They are raised extensively in New Jersey and Wisconsin, and some in other states, but principally in these two and southeastern Massachusetts, where they are called the Cape Cod cranberries.

In looking for a suitable location to cultivate cranberries there are several things to consider. It is necessary to find a tract of low, swampy land with a stream of water running through it. It must then be ascertained whether the land can be drained properly. A stream is most desirable, but many bogs are controlled by artificial water supplies, which are very expensive. There must also be plenty of good yellowish sand, free from loam. Sand is required to cover the whole surface of the bog about four inches deep when made, and an inch or two additional about every second year, in order to keep the vines in a good, healthy, productive condition.

We begin by cutting the wood, clearing the land. At this time of year (December, January and February) the tree stumps should be left about three feet high, as the roots are more easily removed by using the stump as a handle after cutting with a turf axe all around the stump where the roots are liable to terminate. When the wood is cut and removed, leave the stumps until all of the underbrush has been mowed down by a brush seythe. Then rake it up in piles to burn.

Next comes the turfing (the removal of it) all over the surface planned for the cranberry bog. This is done by cutting the turf which contains the little roots of underbrush and vines. Cut it in squares about two feet each way. When that is done the next process is "pulling the turf," which is done with a long handled hook made for the purpose. A little of the turf may be needed to grade up some real low parts, but generally the turf is thrown into wheelbarrows and carried off of the bog. Now that the turf is removed all around the stumps they can be removed much more easily than before by cutting all the roots on one side and turning over on the other side. Then cut the remaining roots, supposing that most of the trees were small, mostly maple, some pine and some birch. Occasionally dynamite is used to get out the big stumps.

Below the turf is the proper soil in which to root cranberry slips. When the brush and stumps are burned and the whole surface is graded, using part of the cut turf in low places (which should be free from roots), then divide the lot into sections containing about a quarter of an acre each. Each section is surrounded by a ditch about a foot and a half each way. The dirt thrown out of the ditch can be used for grading.

When all the above work is done, next comes the "sanding," which is best done in March as it will be necessary to grade a little more after the frost gets out of the ground in the spring.

Editor's Note: We saw the remarkable showing of cranberries at the New England Fruit Show at Boston. There were several different varieties, large, medium and small. Some were highly colored, from deep red, almost black, to very light red or pink. There is undoubtedly an increasing interest in cranberries, an important food item, appetizing and healthful.

One of the well known Aroostook county potato growers and dealers gave a statement before a recent railroad land hearing regarding the cost of production. He estimated that for an average of years he found that the cost of raising the potatoes is 36 cents per bushel. His figures were based on an average crop of 200 bushels and use of a ton of high grade fertilizer. The fertilizer cost about one-half of the total estimate of the crop. The present year is likely to be one of the banner seasons for the Aroostook growers; they have the combination of a good crop here, a brisk demand and a short crop in other sections. But next year look out for too much enthusiasm and over-planting of this leading money crop.

A treatment with creosote is found to increase the durability of all kinds of fence posts, and it helps the soft, perishable woods more in proportion than it does the naturally durable kinds like cedar and chestnut. The plan is already quite popular in the south and west. In this section the abundance of good posts naturally leads farmers to go out and cut fresh ones from their chestnut and cedar groves, rather than to go to the expense of preserving inferior woods. But cedar is becoming scarce and chestnut bark disease, it is predicted, will destroy our chestnut groves. Then the only hope of fence builders will be the use of preserving mixtures.

Jonny's Rezolushuns.

Written for Green's Fruit Grower by
Uncle Dudley.

On the last nite ov the old year Jonny Waker sat at the tabul with his slate an pencil in hand engaged in deep tho. Sudinly he komencd to write an aftur he had laid down the slate an retired it wuz found that he hed written the folloin:

Mi Rezolushuns

Bi Jonny Waker

Rezolved that i wunt tel eny more lize, unles its necessary.

Rezolved that i wunt teze ther kat or her tale, unles i cant resist ther temtashun.

Rezolved that i wunt slam eny dores, unles i furret.

Rezolved that i wunt sass enybudy, unles under grate proverkashun.

Rezolved that i'll tri tu ples everybudy, purvized it'll pay me tu do so.

Rezolved that i wunt pla eny meen triks on eny won unles i cant resist the temtashun.

Rezolved that i wil git mi lesuns, if i cant git erlong without.

Rezolves that i'll oba mi teecher, if i must.

Rezolved that i wunt pleg ther gals, unles i think they want me tu.

Rezolved that i'll keep in with ma, an be good tu her kaws she gives me nice things tu eat, an when dad thretuns tu shak the pudin strings outen me, or skin me alive, she takes mi part and so i hev saved mu pudin strings, an haint lost nary er skin.

Rezolved that i wunt be so lo an meen as tu cut up in ther meetin hous an disturb the meetin.

The government has not done enough for the farmer. The national banks have been forbidden to loan money to farmers. Loans to improve farms have been so hard to get, and so costly when they were secured, that farmers have been kept poor; many have "moved away;" rural population has grown only eleven per cent., while cities have grown twenty-seven per cent.; farm owners have increased only eight per cent. while tenant farmers have increased sixteen per cent.

A farm tenant is usually too poor to buy the farm and often too hopeless to improve it. So this has come to pass: Our banks, with the benevolent aid of the government, have increased their resources eight-fold. Our manufacturers, also wisely protected by the government, have increased their product six-fold. But the American farmer, on whom all must depend wholly for food and partly for clothes, has increased his production less than ten per cent. while population was increasing nearly twenty-five per cent.

Hence the oppressive rise in the cost of living, especially of food. The purchasing power of one dollar, based on prices of 1897, is now about seventy-eight cents in England and France, seventy-nine cents in Germany, and only sixty-nine cents in the United States.

The government sent an agricultural commission abroad last summer to find out why our dollar has contracted more rapidly than the Englishman's and the Frenchman's and the German's dollar.—N. Y. American.

Bees Are Eaten at Their Hive by Skunks.

The little animal so highly prized for his coat and known as the skunk, which is very numerous this season not only in the rural districts but in many villages, is committing depredations along a new line in Manchester.

On the E. H. Perry fruit farm there is an apiary, and the production of honey is made a commercial enterprise. For a few weeks it has been noticed by Mr. Rowley, manager of the farm, that the bees in the hives were each day becoming less in number, and it was first feared that disease of some kind was working destruction in many of the hives.

This theory was suddenly changed by finding skunk tracks around the hives. A watch was kept and a skunk was seen to approach a hive of bees in the moonlight, and scratch his claws along the side, when the bees would crawl out and were instantly devoured by the skunk. So bold had the skunks that were engaged in the robberies become that two were shot in one day at the Perry farm while coaxing the bees to come forth.

It is hardly necessary to suggest that a wound resulting from the bite of an animal should be thoroughly cleansed; carbolic acid should be thoroughly applied and then neutralized with alcohol, and the wound covered with a large, wet, antiseptic dressing. Of course this local dressing alone is not to be depended on when the diagnosis of rabies in the animal inflicting the wound has been established. As soon as this condition of the animal is definitely determined, the patient should be given the benefit of the Pasteur treatment which is most effective when begun within a fortnight after the wound was inflicted.

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An Apple Orchard Will Help You to Live at Ease in Your Later Years

As you grow older you will want to be relieved of the hard work of raising grain and stock. Against that time plant a new apple orchard now. In a few years these trees will give you increasingly heavy crops, and every fall should bring you a year's living expenses.

Start a young orchard this spring. An old orchard should not be depended on—it may be unprofitable because of disease, low yields and wrong varieties. Plant at least a thousand trees (on ten acres). Use only varieties that yield the heaviest and command the highest prices.

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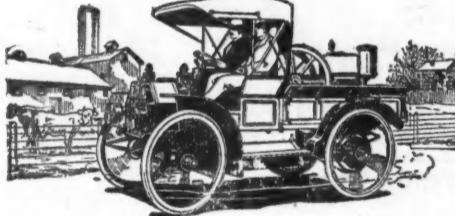
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5945—Girls' Dress with Skirt Attached to Underwaist. Sizes 6, 8, 10 and 12 years. Age 8 needs $\frac{3}{4}$ yards 36 inch goods for dress. Price 10 cents.

4817—Boys' Suit. Sizes 2, 4 and 6 years. Age 4 requires 3 yards 36 inches wide; $\frac{1}{2}$ yard 27 inches contrasting goods. Price 10 cents.

5495—Ladies' Shirt Waist. Cut in 6 sizes. 32 to 42 inches bust. Size 36 requires 2 yards of 36 inch material. Price 10 cents.

5700—Children's and Girls' Sack Night-Gown. Cut in 6 sizes, 2 to 12 years. Age 8 requires 3 $\frac{1}{2}$ yards 36 inch material with 2 $\frac{1}{2}$ yards edging. Price 10 cents.

5873—Ladies' Dress, Having Four Gored Skirt. 5 sizes, 32 to 40 inches bust measure. Size 36 measures 2 $\frac{1}{2}$ yards around lower edge and needs 5 $\frac{1}{2}$ yards 36 inch goods; 4 $\frac{1}{2}$ yards 44 inch goods. Price 10 cents.

5803—Ladies' Eight Gored Skirt. 6 sizes, 22 to 32 inches waist measure. Width of lower edge for 24 waist is 2 $\frac{1}{2}$ yards and requires 3 $\frac{1}{2}$ yards 50 inch material. Price 10 cents.

5840—Ladies' Shirt Waist. Cut in 6 sizes, 32 to 42 inches bust. Size 36 needs 3 $\frac{1}{2}$ yards 27, or 2 $\frac{1}{2}$ yards 36 inch goods. Price 10 cents.

4835—Skirt Waist Suit. Cut in sizes 4, 6, 8, 10 and 12 years. For 8 years it requires 2 $\frac{1}{2}$ yards of 36 inch material. Price 10 cents.

5816—Ladies' Two-Piece Skirt. 5 sizes, 22 to 30 inches waist. Size 24 measures 2 $\frac{1}{2}$ yards around the lower edge and requires 2 $\frac{1}{2}$ yards of 44 inch material. Price 10 cents.

5903—Ladies' Dress with Three-Piece Skirt. Cut in six sizes, 32 to 42 inches bust. Size 36 requires 4 $\frac{1}{2}$ yards 36 inch goods. Price 10 cents.

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4847—Boys' Russian Blouse Suit. Sizes 2, 4 and 6 years. Size 4 years requires 2 $\frac{1}{2}$ yards of 36 inch material. Price 10 cents.

4615—Children's and Girls' One-Piece Apron. 5 sizes, 4 to 12 years. Age 8 requires 1 $\frac{1}{2}$ yards 27 inches wide; $\frac{1}{2}$ yard contrasting goods 27 inches wide. Price 10 cents.

Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

Household Notes.

One of the nicest and most economical shortenings for pie crust is made from equal parts flank or cod fat and lard. Try out separately and when half cooked beat together until light and creamy. The French use this for their best pastry.

Clean iron holders are the exception rather than the rule. They need not be, for little washable cases open at one end like a pillow slip, are easily made, and can be renewed as often as desirable with little trouble. Tie cases on with tapes.

Rice boiled in milk instead of water has much richer flavor. It must be watched closely while being cooked, as it will burn quickly.

Fried Oysters.—One pint of oysters drained from liquid. Roll them in cracker crumbs seasoned lightly with salt and pepper. Let stand until crumbs become moist, then dip them in fine cornmeal and fry a delicate brown in butter or fresh sweet lard.

Warm Gingerbread.—One-half cup butter, fill the remainder of cup with boiling water. One-half cup sugar, fill the remainder of cup with dark molasses. Two cup flour, 1 egg, 2 teaspoons ginger and a little cinnamon. Half of this recipe is enough for four persons.

Baked Liver.—Few people know how delicious calf's liver is when baked instead of fried. Place whatever quantity you have, in a chunk (not sliced), in a small pan with a little water and a generous lump of butter. Salt this well and baste often. When it is sufficiently done it usually shrinks to about half its original size. When served hot it is delicious, but when served cold and sliced and garnished, it makes a real delicacy for supper. Any bit left over makes a nice addition to the school luncheon.

Apple Cake.—Cream together a half-cupful of butter and two cupfuls of sugar and beat into them a half cupful of milk and five whipped eggs. Last of all, add three cupfuls of flour into which have been sifted two small teaspoonsfuls of baking powder. Bake in layers. When cold make the filling by heating in a double boiler a cupful of apple sauce, adding sugar to taste, and then beating in gradually the yolks of two eggs and the juice of a lemon. Cook, stirring for a minute, and set aside until cold before spreading on the cake.

Brown Betty.—Peel and chop enough apples to make two cupfuls. Have ready one cupful of fine bread-crums and two tablespoonsfuls of butter, cut into small bits. Butter a bake dish and put in the bottom of it a layer of chopped apple, sprinkled with sugar, bits of butter and a very little cinnamon; over this spread a layer of crumbs. Then comes another layer of apple and so on until the dish is full. Top with bread-crums and butter. Bake closely covered for forty minutes; remove the cover, set the dish on the upper grating of the oven, and brown the pudding. Serve hot with hard butter and sugar sauce.

Tarts.

Nearly every one has a good appetite for old-fashioned dainty tarts. Roll out nice, tender pie crust rather thin, and cut into disks with a cooky cutter. Cut strips of the rolled out piecrust about half an inch wide and after moistening around the edge of the disks, press the strips on and neatly join together. After the tarts are thus made and baked, fill them with any kind of jelly. Currant is perhaps the most palatable, or apple sauce may be used. The strips around the edge may be stood around plain, or they may be twisted prettily, or rolled so they are round, before putting them onto the moistened bottoms. A plateful of tarts is an attractive addition to the table.

Mint Jelly.

Nothing is better with cold sliced meats than mint jelly. To make, take one-half cup finely chopped mint leaves, one-half cup sugar, and three-fourths of a cup of vinegar. Let stand two hours. Soak two tablespoonsfuls of gelatine in one-half cup of cold water; then dissolve in one-half cup of boiling water. Add to the mint mixture. When firm, slice in half-inch slices and serve with the meat. A lemon can be added to the mint if desired.

Pancakes in England.

London Chronicle.

We still eat pancakes, but their preparation is no longer heralded by ringing the church bells. The "pancake bell," however, was formerly sounded at 11 o'clock on Shrove Tuesday, and its effects have been described by Taylor, the Water poet: "As the clock strikes 11 there is a bell rung, called the Pancake Bell, the sound whereof makes thousands of people distracted and forgetful of manners and humanity. Then there is a tinging called wheaten flour, which the cooks do mingle with water, eggs, spice and other tragical, magical enchantments, and then do put into a frying pan of boiling suet, until it is transformed into a flipjack, called a pancake, which ominous incantation the common people do devour greedily."

Forty-two per cent. of the women who became famous because of political influence or ability were married more than once.

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How far we have gone away in our age of mad progress and fierce intensity of living from the imperturbable attitude of Gray, who experienced such thoughtful pleasure in seeing the place where the "rude forefathers of the hamlet" lay at rest, says Post Express. They had in their toiling lives risen at daybreak; they worked in the harvest fields; their ploughs broke "the stubborn glebe;" they sang gaily as they drove their teams afiel; the woods "bowed beneath their sturdy stroke;" and when at sunset they returned to "the blazing hearth," their children ran to meet them, the youngest fondly climbing his father's knee. And at the close of a useful though obscure existence, they found repose in a country churchyard. After all, they were happy—at any rate the eighteenth century poet so imagined their lot—for untouched by luxury and pride, they were satisfied to live and die undistinguished toilers:

"Far from the madding crowd's ignoble strife
Their sober wishes never learned to stray,
Along the cool sequester'd vale of life
They kept the noiseless tenor of their way."

The "rustic moralist" was wiser than the ambitious "self-made" man of today. He did not "make his pile." He never dreamed that one day it would become the almost universal practice to ride in automobiles. But many a "holy text"—a simple faith that dared not question the exhortations in the parson's Sunday sermon—taught him how "to die." Does it not all amount to this: that we pass away, that we are buried, that we hope for eternal bliss, and that to the Christian hope is never vain?

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HANDIEST help
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"hang" of the skirt.
It can be adjusted to any height and easily used by professional or beginner. Heretofore all skirt gauges were only skirt markers, but the EZY-HEM enables a woman to turn the right length and pin it up all ready to measuring, marking and turning to a minimum. It prevents expensive mistakes, saves time, work, worry and more than its cost on the first skirt made. It is made of nicely polished, nickel plated steel and will last a lifetime. It is also an excellent chalk marker.

DIRECTIONS—Set gauge on the floor so that the skirt will fall over the long wire, making it come under or inside of the skirt. Fold the goods under, so that the long wire will come inside the fold, as shown in illustration No. 1 and pin the hem in place. Slide the gauge along and repeat. The EZY-HEM can easily be used as a chalk marker also. Place the gauge with the long wire finger outside and against the goods, and simply draw chalk along the wire lengthwise, using the wire as guide or rule.

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pairs Gold Eye needles. \$1.00. Send 2 papers
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Let those love now who never lov'd before,
Let those who always loved now love the more.
Parnell.

Dear Aunt Hanna:—I have been a reader of Green's Fruit Grower for a number of years, and while I am interested in all that valuable paper contains I have never paid much attention to Aunt Hanna's column until I saw in the September number the article on "Securing a Wife for a Widower."

I am a widower of eight years standing and am curious to know how you go about to bring the widows and widowers back into the fold again. It must be a delicate and thankless undertaking. An unhappy marriage is not always the fault of the individual character of either party, but rather a careless or hasty selection and a consequent mismatching of characters and of deep-rooted ideas, habits, etc.

There are many good men and women living all alone, without ties, without comfort or enjoyment, just existing, that would make excellent husbands and wives, possessed with all the requirements to make a good home, if they were only lucky enough to find a mate that would be congenial to their own intellectual and moral ideas. If two young people of different individuality are married and really love each other, in the course of time these differences will equalize and blend and the children will claim their joint affections and draw them closer together as time goes on. They know each other's virtues and faults, are able to avoid unpleasant squabbles, and everything goes on fairly pleasant until death claims one of them.

After awhile the children are all gone, having established homes of their own, and before we realize it we are all alone again as in the beginning. The house is empty and cheerless. Even old Tabbie feels lonesome and rubs up against us, looking up at us so that we can almost read the query in her eyes, "What is the trouble? Where is all the former noise and bustle? Where are Jack and Lizzie, Edna and Billy?" There is no such thing as a real home for a lone person. There are many of us with fine houses and lands but they do not make home. We may have a comfortable income but cannot enjoy it. There is a German saying, "Divided sorrow is half sorrow, but divided joy is double joy." The only solution is to "find a mate to match," that is one that is congenial, that is morally and intellectually our equal. Love's dreams have passed us long ago and we must be satisfied with high respect and implicit confidence in each other.—A Reader, Montana.

Note by the Editor: I am interested in the above welcome letter and desire to add that my experience is that men and women who love each other are enjoying married life even though there is a wide difference in tastes, desires or methods of living. Such is the case with myself and wife. We differ in opinion and somewhat in tastes and yet live happy married lives. Where there is deep and undying affection we should be able to get along with differences and with strong wills. I am a strong willed individual and my wife is equally strong willed, and yet we do not clash, nor do we strive to subdue each other. It is hard work making a happy home where the burden falls almost entirely upon either the husband or wife. There should be united action on the part of both to make home the most attractive place on earth.

Dear Aunt Hanna:—Why should we be encumbered with skirts when we could be made far more comfortable by wearing garments similar to those worn by men?—Laboring Subscriber.

Aunt Hanna's Reply: I am glad to have an opportunity to answer the above question for I have never been able to see any good reason why women should not wear trousers. The women of Japan and China wear trousers. Their coats are in the form of a skirt.

It is my opinion that no one can give a satisfactory reason why cumbersome dresses should be worn by women or why trousers are immodest. Women wear dresses and are deprived of the privilege of wearing trousers simply for the reason that such has been the custom through many centuries and for no other reason. Perhaps in the remote past the women of the laboring classes, who had to do work in the fields, wore trousers, and the women of the leisure classes who dwelt in palaces were clad in flowing robes because they had no work to do, and these robes were considered more graceful; so in the course of time it became a mark of social superiority and therefore sought by all.

If men had been compelled to wear dresses, and fashion had decreed women

only should wear trousers during the past 300 years, women might now be in the ascendency and man might have degenerated, for dresses are an encumbrance so great as to prevent woman from doing her best work in any industry, and absolutely ruling her out of many forms of labor. How could a man dig a ditch or a sewer, dig out rocks and stumps, lay up walls of brick and stone, climb high buildings or steeples in order to paint, or to rivet together steel beams, or climb masts or spread sails at sea, or climb over the roofs of fast speeding railway trains, or do many other lines of work encumbered with such garments as women wear.

The noted singer, Miss Tyte, who was not allowed to land in New York City from the steamship while wearing trousers, says that dresses are immodest and trousers are not. She says that trousers leave nothing to the imagination while dresses do.

If there were anything indecent about the wearing of trousers, Maud Adams, the noted and highly esteemed artist, would not wear them so conspicuously upon the stage in every act of the delightful play Peter Pan. No one thinks of criticizing her for appearing without skirts upon the stage.

Aside from the inconvenience of wearing cumbersome skirts and dresses, why has not more been said about the fact that such dresses are not sufficient protection from the cold blasts of winter. Trousers are far warmer than dresses, as anyone must decide who gives the question a moment's thought.

Many children and others wearing flimsy dresses have lost their lives by fire. Girls playing with fire in the yard set fire to their dresses while their boy companions escape though similarly exposed. Women over gas or gasoline cook stoves have lost their lives, whereas if they had been wearing the substantial clothing worn by men they would have escaped.

On windy days in cities I have seen women swept off their feet, whereas if they were dressed more as men do they could have passed through the streets with safety.

Owing to the prejudice against women wearing trousers, society ordained that women should not ride astride of horses. Owing to this edict of fashion women were for more than a hundred years compelled to ride on side saddles, which are not only uncomfortable but dangerous.



Explained.

"You are going to the wedding, Jean Pierre, and you look so sad!"
"I should think so. It is my own marriage."—*Le Rire* (Paris).

If You Owe Money Get a \$10 Bill Like This One.

Godey's Lady's Book and Magazine, July 1877.

Mr. Brown kept boarders. Around his table sat Mr. Brown, Mrs. Brown, Mrs. Andrews, the village milliner; Mr. Black, the baker; Mr. Jordan, a carpenter, and Mr. Hadley, a flour and lumber merchant.

Mr. Brown took out of his pocket book a \$10 note and handed it to Mrs. Brown, saying:

"Here, my dear, are the \$10 toward the \$20 I promised you."

Mrs. Brown handed it to Mrs. Andrews, the milliner, saying:

"That pays for my new bonnet."

Mrs. Andrews said to Mr. Jordan as she handed him the note:

"That will pay for your work on my counter."

Mr. Jordan handed it to Mr. Hadley, requesting his lumber bill, while Mr. Hadley gave it back to Mr. Brown, saying:

"That pays \$10 on my board."

Mr. Brown passed it to his wife, with the remark that that paid her the \$20 he had promised her. She, in turn, paid it to Mr. Black to settle her bread and pastry account, who handed it to Mr. Hadley, wishing credit for that amount on his flour bill, he again returning it to Mr. Brown, with the remark that it settled for that month's board. Whereupon Mr. Brown put it back into his pocketbook, exclaiming that he "never thought a \$10 bill would go so far."

Thus a \$10 greenback was made to pay \$90 indebtedness inside of five minutes.

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4830—Ladies' One-Piece Apron. Sizes 32, 36, 40 and 44 inches bust. Size 36 requires 3 yards 36 inches wide. Price 10 cents.

5945—Girls' Dress with Skirt Attached to Under-waist. Sizes 6, 8, 10 and 12 years. Age 8 requires 3 yards 36 inches bust goods for dress. Price 10 cents.

4817—Boys' Suit. Sizes 2, 4 and 6 years. Age 4 requires 3 yards 36 inches wide; $\frac{1}{2}$ yard 27 inch contrasting goods. Price 10 cents.

5495—Ladies' Shirt Waist. Cut in 6 sizes, 32 to 42 inches bust. Size 36 requires 2 yards of 36 inch material. Price 10 cents.

5700—Children's and Girls' Sack Night-Gown. Cut in 6 sizes, 2 to 12 years. Age 8 requires 3 $\frac{1}{2}$ yards 36 inch material with 2 $\frac{1}{2}$ yards edging. Price 10 cents.

5944—Ladies' Dress, Having Four Gored Skirt. 5 sizes, 32 to 40 inches bust measure. Size 36 measures 2 $\frac{1}{2}$ yards around lower edge and needs 5 $\frac{1}{2}$ yards 36 inch goods; 4 $\frac{1}{2}$ yards 44 inch goods. Price 10 cents.

6247—Ladies' Eight Gored Skirt. 6 sizes, 22 to 32 inches bust measure. Width of lower edge for 24 waist is 2 $\frac{1}{2}$ yards and requires 3 $\frac{1}{2}$ yards 50 inch material. Price 10 cents.

5995—Ladies' Shirt Waist. Cut in 6 sizes, 32 to 42 inches bust measure. Size 36 needs 3 $\frac{1}{2}$ yards 27, or 2 $\frac{1}{2}$ yards 36 inch goods. Price 10 cents.

4635—Shirt Waist Suit. Cut in sizes 4, 6, 8, 10 and 12 years. For 8 years it requires 2 $\frac{1}{2}$ yards of 36 inch material. Price 10 cents.

5872—Ladies' Two-Piece Skirt. 5 sizes, 22 to 30 inches waist. Size 24 measures 2 $\frac{1}{2}$ yards around the lower edge and requires 2 $\frac{1}{2}$ yards of 44 inch material. Price 10 cents.

5903—Ladies' Dress with Three-Piece Skirt. Cut in six sizes, 22 to 42 inches bust. Size 36 requires 4 $\frac{1}{2}$ yards 36 inch goods. Price 10 cents.

6400—Doll's One-Piece Dress. 7 sizes, 14 to 26 inches long. Size 24 requires 1 yard of 36 inch material, 1 $\frac{1}{2}$ yards of edging. Price 10 cents.



4847—Boys' Russian Blouse Suit. Sizes 2, 4 and 6 years. Size 4 years requires 2 $\frac{1}{2}$ yards of 36 inch material. Price 10 cents.

4615—Children's and Girls' One-Piece Apron. 5 sizes, 4 to 12 years. Age 8 requires 1 $\frac{1}{2}$ yards 27 inches wide; $\frac{1}{2}$ yard contrasting goods. 27 inches wide. Price 10 cents.

Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

Household Notes.

One of the nicest and most economical shortenings for pie crust is made from equal parts flour or corn fat and lard. Try out separately and when half cooked beat together until light and creamy. The French use this for their best pastry.

Clean iron holders are the exception rather than the rule. They need not be for little washable cases open at one end like a pillow slip, are easily made, and can be renewed as often as desirable with little trouble. Tie cases on with tapes.

Rice boiled in milk instead of water has much richer flavor. It must be watched closely while being cooked, as it will burn quickly.

Fried Oysters.—One pint of oysters drained from liquid. Roll them in cracker crumbs seasoned lightly with salt and pepper. Let stand until crumbs become moist then dip them in fine cornmeal and fry a delicate brown in butter or fresh sweet lard.

Warm Gingerbread.—One-half cup butter, fill the remainder of cup with boiling water. One-half cup sugar, fill the remainder of cup with dark molasses. Two cups flour, 1 egg, 2 teaspoons ginger and a little cinnamon. Half of this recipe is enough for four persons.

Baked Liver.—Few people know how delicious calf's liver is when baked instead of fried. Place whatever quantity you have, in a chunk (not sliced), in a small pan with a little water and a generous lump of butter. Salt this well and baste often. When it is sufficiently done it usually shrinks to about half its original size. When served hot it is delicious, but when served cold and sliced and garnished, it makes a real delicacy for supper. Any bit left over makes a nice addition to the school luncheon.

Apple Cake.—Cream together a half-cupful of butter and two cupfuls of sugar and beat into them a half cupful of milk and five whipped eggs. Last of all, add three cupfuls of flour into which have been sifted two small teaspoonsfuls of baking powder. Bake in layers. When cold make the filling by heating in a double boiler a cupful of apple sauce, adding sugar to taste, and then beating in gradually the yolks of two eggs and the juice of a lemon. Cook, stirring for a minute, and set aside until cold before spreading on the cake.

Brown Betty.—Peel and chop enough apples to make two cupfuls. Have ready one cupful of fine bread-crumbs and two tablespoonsfuls of butter, cut into small bits. Butter a bake dish and put in the bottom of it a layer of chopped apple, sprinkled with sugar, bits of butter and a very little cinnamon; over this spread a layer of crumbs. Then comes another layer of apple and so on until the dish is full. Top with bread-crumbs and butter. Bake closely covered for forty minutes; remove the cover, set the dish on the upper grating of the oven, and brown the pudding. Serve hot with hard butter and sugar sauce.

Tarts.

Nearly every one has a good appetite for old-fashioned dainty tarts. Roll out nice, tender pie crust rather thin, and cut into disks with a cooky cutter. Cut strips of the rolled out piecrust about half an inch wide and after moistening around the edge of the disks, press the strips on and neatly join together. After the tarts are thus made and baked, fill them with any kind of jelly. Currant is perhaps the most palatable, or apple sauce may be used. The strips around the edge may be stood around plain, or they may be twisted prettily, or rolled so they are round, before putting them onto the moistened bottoms. A plateful of tarts is an attractive addition to the table.

Mint Jelly.

Nothing is better with cold sliced meats than mint jelly. To make, take one-half cup finely chopped mint leaves, one-half cup sugar, and three-fourths of a cup of vinegar. Let stand two hours. Soak two tablespoonsfuls of gelatine in one-half cup of cold water; then dissolve in one-half cup of boiling water. Add to the mint mixture. When firm, slice in half-inch slices and serve with the meat. A lemon can be added to the mint if desired.

Pancakes in England.

London Chronicle.

We still eat pancakes, but their preparation is no longer heralded by ringing the church bells. The "pancake bell," however, was formerly sounded at 11 o'clock on Shrove Tuesday, and its effects have been described by Taylor, the Water poet: "As the clock strikes 11 there is a bell rung, called the Pancake Bell, the sound whereof makes thousands of people distracted and forgetful of manners and humanity. Then there is a thing called wheat flour, which the cooks do mingle with water, eggs, spice and other tragical, magical enchantments, and then do put into a frying pan of boiling suet, until it is transformed into a flipjack, called a pancake, which ominous incantation the common people do devour greedily."

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Their sober wishes never learned to stray.
Along the cool sequester'd vale of life
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Sturdy as Oaks. Founded 1850.

Dingee roses are always grown on their own roots and are absolutely the best for the amateur planter. Write for our "New Guide to Rose Culture" for 1914—it's free. It is a catalog—16 pages long, with 100 illustrations. The cover pictures the new Charles Dingee rose, the hardiest free-blooming rose in America. We have plans to prepare all express charges and guarantee safe delivery. Est. 1850. 70 greenhouses.

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Any three 10 cent packages mailed for 25 cents.

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HANDIEST help ever invented for home dressmaking, as it assures absolute accuracy and style in the correct "hang" of the skirt. It can be adjusted to any height and easily used by professional or beginner. Heretofore all skirt gauges were only skirt markers, but the EZY-HEM enables a woman to turn the skirt the right length and pin it up all ready to measuring, marking and turning to a minimum. It prevents expensive mistakes, saves time, work, worry and more than its cost on the first skirt made. It is made of nicely polished, nickel plated steel and will last a lifetime. It is also an excellent chalk marker.

DIRECTIONS—Set gauge on the floor so that the skirt will fall over the long wire, making it come under or inside of the skirt. Fold the goods under, so that the long wire will come inside the fold, as shown in illustration No. 1 and pin the hem in place. Slide the gauge along and repeat. The Ezy-Hem can easily be used as a chalk marker also. Place the gauge with the long wire finger outside and against the goods, and simply draw chalk along the wire lengthwise, using the wire as guide or rule.

HOW TO GET IT FREE
Send one year's subscription—new, renewal or extension—and this splendid gauge—easily worth 50c—is yours without cost. Send subscription now before you forget it—only 50c—and while we can furnish the gauges, Address:

GREEN'S FRUIT GROWER, Rochester, N. Y.

CARDS
Will write your name like this, on one dot, for only 10c. The finest writing paper ever seen. Will Agents begin business with us? Write for details. **W. A. Bode**, Expert Penman, Box 177, Fairhaven, Pa.

The Association of American Advertisers has examined and certified to the circulation of this publication. The figures of circulation contained in the Association's report only are guaranteed.

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We positively give genuine American Stem Wind and Set Watch, beautifully designed case, warranted time-keeper, 6-12 months. Sparkling Set or Plain Ring, all for selling 25c each. **HOME SUPPLY CO.**, Dept. 228, Chicago, Ill.

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We pay 50 per cent. Send poems or melodies; they may make you a fortune. **Hayworth Music Co.**, 611, Washington, D. C.

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Send name and address. Get 2 pairs Gold Eye needles. Send 2 pairs for 10c with **HOME SUPPLY CO.**, Dept. 224, Greenville, Pa.

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100 Candle Power. Incandescent pure white light from (kerosene) oil. Beats either gas or electric light. **COSTS ONLY 1 CENT FOR 6 HOURS**. We want one person in each locality to refer new customers. Take advantage of our Special Offer. Secure a Beacon Burner **FREE**. Write today. **AGENTS WANTED**. **HOME SUPPLY CO.**, 14 Home Bldg., Kansas City, Mo.

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AUNT HANNA'S REPLIES

Let those love now who never lov'd before,
Let those who always loved now love the more.
—Parnell.

Dear Aunt Hanna:—I have been a reader of Green's Fruit Grower for a number of years, and while I am interested in all that valuable paper contains I have never paid much attention to Aunt Hanna's column until I saw in the September number the article on "Securing a Wife for a Widower."

I am a widower of eight years standing and am curious to know how you go about to bring the widows and widowers back into the fold again. It must be a delicate and thankless undertaking. An unhappy marriage is not always the fault of the individual character of either party, but rather a careless or hasty selection and a consequent mismatching of characters and of deep-rooted ideas, habits, etc.

There are many good men and women living all alone, without ties, without comfort or enjoyment, just existing, that would make excellent husbands and wives, possessed with all the requirements to make a good home, if they were only lucky enough to find a mate that would be congenial to their own intellectual and moral ideas. If two young people of different individuality are married and really love each other, in the course of time these differences will equalize and blend and the children will claim their joint affections and draw them closer together as time goes on. They know each other's virtues and faults, are able to avoid unpleasant squabbles, and everything goes on fairly pleasant until death claims one of them.

After awhile the children are all gone, having established homes of their own, and before we realize it we are all alone again as in the beginning. The house is empty and cheerless. Even old Tabbie feels lonesome and rubs up against us, looking up at us so that we can almost read the query in her eyes, "What is the trouble? Where is all the former noise and bustle? Where are Jack and Lizzie, Edna and Billy?" There is no such thing as a real home for a lone person. There are many of us with fine houses and lands but they do not make home. We may have a comfortable income but can't enjoy it. There is a German saying, "Divided sorrow is half sorrow, but divided joy is double joy." The only solution is to "find a mate to match," that is one that is congenial, that is morally and intellectually our equal. Love's dreams have passed us long ago and we must be satisfied with high respect esteem and implicit confidence in each other.—A Reader, Montana.

Note by the Editor: I am interested in the above welcome letter and desire to add that my experience is that men and women who love each other are enjoying married life even though there is a wide difference in tastes, desires or methods of living. Such is the case with myself and wife. We differ in opinion and somewhat in tastes and yet live happy married lives. Where there is deep and undying affection we should be able to get along with differences and with strong wills. I am a strong willed individual and my wife is equally strong willed, and yet we do not clash, nor do we strive to subdue each other. It is hard work making a happy home where the burden falls almost entirely upon either the husband or wife. There should be united action on the part of both to make home the most attractive place on earth.

Dear Aunt Hanna:—Why should we be encumbered with skirts when we could be made far more comfortable by wearing garments similar to those worn by men?—Laboring Subscriber.

Aunt Hanna's Reply: I am glad to have an opportunity to answer the above question for I have never been able to see any good reason why women should not wear trousers. The women of Japan and China wear trousers. Their coats are in the form of a skirt.

It is my opinion that no one can give a satisfactory reason why cumbersome dresses should be worn by women or why trousers are immodest. Women wear dresses and are deprived of the privilege of wearing trousers simply for the reason that such has been the custom through many centuries and for no other reason. Perhaps in the remote past the women of the laboring classes, who had to do work in the fields, wore trousers, and the women of the leisure classes who dwelt in palaces were clad in flowing robes because they had no work to do, and these robes were considered more graceful; so in the course of time it became a mark of social superiority and therefore sought by all.

If men had been compelled to wear dresses, and fashion had decreed women

only should wear trousers during the past 300 years, women might now be in the ascendency and man might have degenerated, for dresses are an encumbrance so great as to prevent woman from doing her best work in any industry, and absolutely ruling her out of many forms of labor. How could a man dig a ditch or a sewer, dig out rocks and stumps, lay up walls of brick and stone, climb high buildings or steeples in order to paint, or to rivet together steel beams, or climb masts or spread sails at sea, or climb over the roofs of fast speeding railway trains, or do many other lines of work encumbered with such garments as women wear.

The noted singer, Miss Tyte, who was not allowed to land in New York City from the steamship while wearing trousers, says that dresses are immodest and trousers are not. She says that trousers leave nothing to the imagination while dresses do.

If there were anything indecent about the wearing of trousers, Maud Adams, the noted and highly esteemed artist, would not wear them so conspicuously upon the stage in every act of the delightful play Peter Pan. No one thinks of criticizing her for appearing without skirts upon the stage.

Aside from the inconvenience of wearing cumbersome skirts and dresses, why has not more been said about the fact that such dresses are not sufficient protection from the cold blasts of winter. Trousers are far warmer than dresses, as anyone must decide who gives the question a moment's thought.

Many children and others wearing flimsy dresses have lost their lives by fire. Girls playing with fire in the yard set fire to their dresses while their boy companions escape though similarly exposed. Women over gas or gasoline cook stoves have lost their lives, whereas if they had been wearing the substantial clothing worn by men they would have escaped.

On windy days in cities I have seen women swept off their feet, whereas if they were dressed more as men do they could have passed through the streets with safety.

Owing to the prejudice against women wearing trousers, society ordained that women should not ride astride of horses. Owing to this edict of fashion women were for more than a hundred years compelled to ride on side saddles, which are not only uncomfortable but dangerous.



Explained.

"You are going to the wedding, Jean Pierre, and you look so sad!"

"I should think so. It is my own marriage."—Le Rire (Paris).

If You Owe Money Get a \$10 Bill Like This One.
Godey's Lady's Book and Magazine, July 1877.

Mr. Brown kept boarders. Around his table sat Mr. Brown, Mrs. Brown, Mrs. Andrews, the village milliner; Mr. Black, the baker; Mr. Jordan, a carpenter, and Mr. Hadley, a flour and lumber merchant.

Mr. Brown took out of his pocket book a \$10 note and handed it to Mrs. Brown, saying:

"Here, my dear, are the \$10 toward the \$20 I promised you."

Mrs. Brown handed it to Mrs. Andrews, the milliner saying:

"That pays for my new bonnet."

Mrs. Andrews said to Mr. Jordan as she handed him the note:

"That will pay for your work on my counter."

Mr. Jordan handed it to Mr. Hadley, requesting his lumber bill, while Mr. Hadley gave it back to Mr. Brown, saying:

"That pays \$10 on my board."

Mr. Brown passed it to his wife, with the remark that that paid her the \$20 he had promised her. She, in turn, paid it to Mr. Black to settle her bread and pastry account, who handed it to Mr. Hadley, wishing credit for that amount on his flour bill, he again returning it to Mr. Brown, with the remark that it settled for that month's board. Whereupon Mr. Brown put it back into his pocketbook, exclaiming that he "never thought a \$10 bill would go so far."

Thus a \$10 greenback was made to pay \$90 indebtedness inside of five minutes.

What Makes a Good Sprayer?

High Pressure—to throw a strong, fine spray. **A Pump**—of sufficient capacity under slow speed. **An Agitator**—to keep mixture well stirred. **Some Method of Cleaning** the strainer. Ask any fruit farmer with experience. He will tell you that the most annoying thing is to find pump suction or nozzles clogged when he has a tank full of spray mixture in the orchard and must clean out before his sprayer will work.



FIELD FORCE PUMP CO., 226 11th St., Elmira, N. Y.

"Ospraymo" Line

Automatic Brushes with Mechanical Agitators are furnished with Empire King Barrel Pump and Waison-Ospraymo Potato Sprayer, also with all LEADER Gasoline Engine machines. The prices are low considering the efficiency, durability and capacity. Are you interested? A postal will bring you into touch with our nearest agency.

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We offer the best of everything as Nurserymen, Florists and Seedsmen and at moderate prices.

Have for sale hundreds of carloads of Fruit and Ornamental Trees, Shrubs, Hardy Roses, Vines, Bulbs, Seeds, etc.



Give us a trial. Write today for general catalog No. 2, 192 pages, or for No. 1, if a more detailed description of Fruit and Ornamental Trees is wanted. 1,200 acres, 46 greenhouses.

(80) THE STORRS & HARRISON CO., Box 172, Painesville, Ohio

J. H. HALE'S Peach Sensation

Obtainable Only From William P. Stark Nurseries, Stark City, Missouri

Fruit-growers and orchardists everywhere proclaim this the greatest prize added to horticulture in decades. We were doubly oversold last spring. Order early to be sure of your trees for fall planting.

Firm, yet delicate flesh. Half to third larger than Elberta. Rich golden color, tinged carmine. Perfect frost-resistance. Smooth skin, practically fuzzless! Stands shipment like apples. Round shape for preserving. Luscious peachy flavor. Hardy in wood and in bud. Ripens earlier than Elberta, with long fruiting season.



Mr. J. H. HALE,

Discoverer and Introducer of This Wonderful Peach.

Budded From Mr. Hale's Bearing Orchards

We have an exclusive contract with Mr. Hale for distribution of the J. H. HALE Peach. Our propagating buds are cut direct from his bearing trees. For size, flavor, texture, hardiness, shipping and preserving qualities and salability, this peach stands unparalleled in America. Get in with the early growers! Start your orchard *this very season*—you'll realize the wisdom of this when market-buyers begin bidding for these amazing peaches. Experts call the J. H. HALE "The Million Dollar Peach." It'll pay you to find out about it today.

No Agents—Save 50%

We have cut out the middleman's profits. We grow our trees at Stark City, Mo., and sell to you direct by mail. So you save the 30 to 50 per cent. usually paid for agents' commissions, traveling expenses, etc. And you get the benefit of personal dealing. We grow nothing but selected trees, all standard varieties, doubly guaranteed true to name by the strongest of guarantees.

We are prepared to furnish you the best of everything in apple trees, peach, pear, plum, cherry, apricot, quince, grapes, currants, blackberries, raspberries, gooseberries, roses, shrubs, ornamental and shade trees.

William P. Stark Nurseries

Station G-3

Stark City, Mo.

Mail Coupon for New Catalog.

William P. Stark trees have the highest reputation for quality. 120-Page Illustrated Catalogue lists all desirable varieties. Prices in plain figures. Mailed only on request.

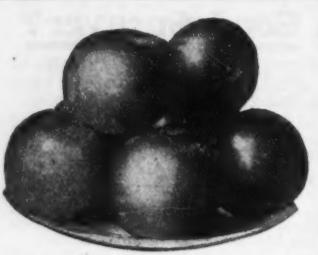
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Station G-3, Stark City, Mo.

Please send me newest catalog, prices and full details of J. H. HALE Peach.

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Address



Choice Fruit
is the result of efficiency methods.
Right cultivation,
pruning and spraying with

**SHERWIN-WILLIAMS
INSECTICIDES**

produce that kind of fruit. Free from insects and disease marks, regular in shape, and rich in color, they at once appeal and price is forgotten.

Grow that profitable quality by spraying with S-W Dry Powdered Arsenate of Lead, S-W New Process Arsenate of Lead (containing Adhesive Lead Compounds, S-W Lime Sulfur Solution and S-W Bordeaux Mixture).

For vegetable spraying particularly S-W Paris Green and Tuber-Tonic will produce corresponding results.

A post-card will bring you our 124-page illustrated book, "Spraying, a Profitable Investment," and a folder describing our new Combination Potato Spray—Tuber-Tonic.



THE SHERWIN-WILLIAMS CO.
Insecticide and Fungicide Makers
675 Canal Road, N. W., Cleveland, O.

When you write advertisers
Please mention Green's Fruit Grower.

Courting an Orchard for Profit.
Written for Green's Fruit Grower by
John E. Taylor, Maine.

There is a man in Somerset County, Maine, who has found beyond any doubt that pruning and cultivating an orchard are as essential to profits as the picking of the fruit.

This man moved onto the farm about 15 years ago. There were 1500 Baldwin and Greening trees in the orchard that were then 25 years old. It was evident that care had been used in setting them out but the first year that he took this farm the orchard bore only 25 barrels.

The next spring he trimmed the orchard, pruning all the dead and superfluous limbs. The next year, though the year was only fair for orchards, the orchard bore 50 barrels or doubled the number of barrels of the year before.

This man was not satisfied with this. That summer he bought 25 hogs and put them in this orchard and they rooted the old dead sod up around the trees. That fall he plowed between the trees and left the hogs in the orchard until late. In the spring he harrowed the ground thoroughly and planted potatoes, using about a ton of fertilizer to the acre. The following fall the orchard produced 80 barrels of salable fruit.

That fall he plowed the orchard again and while the snow was on the ground in

in growing apple trees, and that pests were bound to live in their trees, now have begun to treat their orchards in a business-like way cutting the fungus growths from them, spraying the trees, pruning and working for better fruit.

When the special prize was given the State Horticulturist was employed to act as judge on the exhibits. This gave the farmers an opportunity to inquire of this judge why he had awarded the prize as he did and how perfection might be attained in fruit growing by other farmers. As a further stimulus this fall there were ten business men in Somerset County that each gave ten dollars for the best box of apples in a given variety of ten kinds. The results were pronounced. The judge of these apples stated that the show had the best apple exhibit of any fair in Maine that he had attended this fall.

Premiums were given on Ganos, Baldwins, McIntosh Reds, Northern Spies, Starks, Kings, Wealthies, St. Lawrence, Rhode Island Greenings and Farmer's Rewards. The exhibits were full and prizes were awarded upon each variety. This method has had more influence of increasing the interest in better orcharding than anything else in many years. It has shown to the farmer that in order to attain profits from an orchard, it should have care and cultivation.

These western apples have produced wonderful results, and have advertised their section far and wide, while scarcely anything has been said about apple growing or other fruit growing in the states east of New York state. We in western New York have done what we could to sustain the reputation of this famous section which we think is not beaten the world over. It would seem now to be high time to exploit our sister states to the east and report their success in fruit growing. These eastern states have every advantage over the orchards that are 3000 miles distant in the west, for the eastern states are at the very doors of the markets of Boston, New York, Philadelphia, Baltimore and other lesser cities within their own confines. Remember that the apple is a northern fruit. It thrives better at the north than at the south.

Our eastern states have many hill farms, and it is the hill farms that produce the finest fruit in the largest quantities. Many of these eastern farms are rocky and sometimes occupied by stumps. These apparent defects need not prevent the planting of an apple orchard where apples succeed. I shall plant a steep slope on the new farm that I have purchased, where plowing cannot readily be done. I will furnish a sod mulch for the young trees by turning over the sod at a distance as wide as the feeding roots extend, and shall expect to secure a profitable orchard without other methods of culture than sod culture and mulching. Such orchards can be secured on rocky soil and on the soil filled with stumps in the eastern states.

Florida Strawberries Shipped to the North.

The first strawberries of the season, two carloads, left here to-day for Chicago. The farmers netted 75 cents per quart.—Plant City, Fla.

What is believed to be the largest single shipment of vinegar ever made, consisting of a solid train of fifteen cars, was sent recently from a factory in Paris, Texas.

For sowing seeds in perfect geometrical figures, a perforated roller, through the holes in which the seeds drop, has been invented.

He Planted a Hardy Dwarf Pear Hedge.

Green's Fruit Grower:—In answer to your question, Have you followed my advice, we ordered 150 dwarf pear trees which were delayed by the flood so that when they arrived in April we found the trees blooming in the box. After preparing the soil with care the trees were set three feet apart all around the walks and driveway. We have thrown the soil up to the stems, forming a ridge, which has been kept loose and free from weeds and grass. All the trees are doing well, not a single one is missing. Next spring we intend to cut the tops off. We hope to set out a hedge of dwarf peaches in March or April.—Jacob Graf, Indiana.

ANOTHER DWARF PEAR HEDGE.

Editor of Green's Fruit Grower:—On Nov. 1, 1910, I planted a pear hedge of 20 dwarf pears three feet apart. This year five of the trees bore fruit. I am well pleased with the experiment. Next year I look for quite a crop from the hedge. I am delighted with the Fruit Grower. I have a half block of fruit garden and am after every new fruit.—C. W. Keifer, Kansas.

STILL ANOTHER.

Dear Mr. Green:—I am one of the subscribers to Green's Fruit Grower who accepted your advice twelve years ago and planted a hedge of dwarf pear trees around my garden in New Mexico. I bought 120 pear trees. They have lived and have been bearing fruit abundantly every year. I would not take \$1000 for these 120 dwarf pear trees, planted three feet apart in the row, ample space being given on either side for sunshine and ventilation.—Chas A. Sirring, New Mexico.

APPLE GROWING IN THE EASTERN STATES.

The fact that a representative of Green's Fruit Grower, Mr. R. E. Burleigh, our business manager, was fortunate enough to be present at an exhibition of fruit held in Boston, September 14th, gives me much pleasure. I have asked Mr. Burleigh to report in full what he saw at this exhibition. He was astonished at the marvelous display of fruits. Mr. Burleigh has been fortunate enough to see some of the largest exhibitions of fruit ever made in this country. He was at the continental display of fruits made in New York City about one year ago, when car loads of the finest apples grown in the middle west or along the Pacific Coast were exhibited as compared with those of western New York and every part of this country. He tells me that he never saw finer apples exhibited than those from the eastern states, that is from Massachusetts, Vermont, New Hampshire and Maine.

We have as American citizens gloried in the superior fruits grown in the west, middle west and on the Pacific Coast.

Straw Mulch in Orchards.

A practical fruit grower, who does some useful experimenting tells of his experience in the use of straw for orchard mulch as follows:

Eight tons of straw, costing at the rate of \$9.50 a ton, were used. About twenty-five trees were left unmulched for comparison. The fall was very dry, there being but very little rain from the middle of August until December. The mulched fruit was increased considerably in size and the percentage of first grade fruit increased about fourteen per cent. by the use of the straw. As a result of the better appearance and higher grade of the mulched fruit, it is estimated that it would bring twenty-five cents more per barrel than the unmulched fruit.

Little Rock, Ark., October, 1913.

Green's Fruit Grower Co.:—We received your October issue of Green's Fruit Grower the first of the week. It seems to be better and better all the time.—Frank Busch.

**More than 100,000 Farmers and Fruit Growers
Use the Standard Spray Pump**

With it they spray their tallest orchard trees from the ground in half the time required by others. The knapsack attachment enables them to spray their potatoes and low growing crops at the rate of an acre an hour or better. They white-wash their barns and chicken coops and spray "dip" on their live stock with the Standard Spray Pump.

Made throughout of brass, with nothing to wear out or break, the Standard Spray Pump lasts a life time and pays for itself over and over again.

Warranted 5 Years. Price \$4 Prepaid.
(West of Denver \$5.) Money back if not satisfied.

Send no money but write today for our Special Offer and Catalog B.

The Standard Stamping Co.
348 Main Street, Marysville, Ohio.

When you write advertisers Please mention Green's Fruit Grower.

SPRAY with an ANTI-KLOG

They give the highest efficiency through long hard terms of service. There is an Anti-Klog of the right capacity for those who have much and those who have little spraying to do.

They spray better—spray better longer—and represent more downright sprayer value—than any other spraying device manufactured.

Ease of operation, simplicity, strength and a number of other individual features appeal to every user. The Anti-Klog nozzles make it very difficult for any mixture to clog the outlet.

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You are absolutely protected when you buy an Anti-Klog, as each one is sold under an unqualified guarantee of 5 years' service. Send for our new free catalog and give your dealer's name. You should now make preparations for spring spraying.

ILLINOIS METALS COMPANY

2411 West 22nd Street

CHICAGO, ILL.

ONE APPLE FOR EACH MINIMUM.
For Proper Celebration of National
Apple Day.

"The primary purpose of Captain James Handley, of Quincy, Ill., the founder of the national Apple Day, was educational and to foster apple culture. Since then, through the efforts of the International Apple Shippers' Association, growers' organizations and commercial bodies, the purposes of the day have broadened.

ENCOURAGING APPLE EATING.

"Not alone is production now considered, but the equally important element of consumption is emphasized. Schools in many sections have devoted a part of the day to special articles and discussions on the apple. Special sales are held. Attractive displays are made. Hotels and restaurants make the apple prominent on their menus. The poor, the orphan asylums, the hospitals, will be remembered by gifts of this attractive fruit."

"How should Apple Day be celebrated?" Mr. Phillips was asked.

"To celebrate the day properly one should eat at least one apple, and as many more as possible. It is a day when the householder should begin to think of laying away a few barrels of Spies, Spitzbergs, Baldwins and other varieties against the cold winter nights when, with friends and family about, the rosy-cheeked apples will open the channels of sociability."

SIZE OF APPLE CROP.

When asked regarding the extent of the apple crop in this country and whether it would last if everybody ate several apples on Apple Day, Mr. Phillips said:

"Few people realize the extent and value of the apple crop of the United States. It is a national fruit, raised all the way from the mountains of Georgia to Maine, and from Maine clear across to Los Angeles, in California. Even the state of New Mexico this year produced 1,200 cars of commercial apples. The American apple crop is not only the largest fruit crop in the country, but it is the most valuable crop in the world.

"If the apples raised in this country were made into a wall twenty feet high and eight feet wide the wall would extend from New York almost to Chicago. If the apples were placed end to end they would extend more than 300,000 miles, or would make a double track six times around the world. If the apples were packed in barrels and the barrels piled end on end, the top would be more than 6,000 miles above the earth, so you see that there will be plenty of apples to go around no matter how many we eat."

WESTERN NEW YORK YIELD.

"Will there be enough apples in this section of the state to go around?" Mr. Phillips was asked.

"In Western New York the commercial crop alone will mean substantially, \$7,000,000 paid into the hands of producers. The value of the total crop of all grades in the United States will probably be not far short of \$100,000,000. This helps materially in the battle for prosperity.

"At present there are at least 100 apples in sight for every man, woman and child in the United States, and of better quality and larger size than usual. It is hoped that everyone will begin the day and year right by consuming at least one apple Tuesday and thus make a small start of his share of 100. That is the way to observe the day. At the same time, don't forget your friends. Let the children have apples. Put one in the lunch basket. Decorate the table with apple sauce, apple pie, apple dumpling and baked apples."

The Apple Supply Decreasing.

Judging by statements made by experts who have studied the apple situation in this country, the only thing that stands in the way of securing a fair price for all the apples we raise is an efficient system of marketing the crop, says Democrat and Chronicle. While the population of the country is steadily growing, and the popularity of the apple certainly is not declining, the number of bearing trees grows steadily less. Dr. J. H. Funk, a horticultural specialist, of Berks county, Pa., states in a recent article that while there were 200,000,000 bearing apple trees in this country fifteen years ago, the number has been reduced to 150,000,000 by the San Jose scale and other pests, and by fungus diseases, and is still decreasing. More than that, not one tree out of every twenty planted ever reaches profitable maturity. With this condition of affairs, obviously orchardists have only to reach the consumer to insure themselves against low prices. Maybe the parcel post will assist in the solution of this problem.

Canada has appropriated \$10,000,000 to cover a period of ten years' instruction and research in agriculture. The fund is to be distributed among the provinces according to population.

Mice in Young Orchards.

One of the destructive pests that the owner of a young apple orchard has to reckon with is the field mouse. It is commonly supposed that they are to be feared only in winter after deep snows have fallen, and the animals in search of food find the succulent bark of the young apple tree near their nests or burrows. But the experience of the past season has taught me that they may girdle trees at any time of the year if circumstances favor them, says American Cultivator.

What did the thirsty and famishing rodents do but make the mulch their shelter and home and form their nests and burrows under it in the ground. In August, when looking over the trees, I discovered a number of them girdled, some completely so, and immediately I put elm-veneer wrappers around them all, covering the wounds with grafting wax and heaping dirt around them. The hard, dry, elm-wood wrappers would seem to be a safeguard against further depredations, and they did protect most of the trees, for the tarred ends of the wrappers are well pushed down into the soil. But some of the more sagacious mice were not to be foiled by the wrappers, and burrowed under them down to the roots of the tree and fed on the juicy bark, and even ate the wood of the smaller roots.

This proves that mulching in a very dry season has its peculiar dangers. As no rains had fallen on the ground to compact it since it was first loosened up, the mice, protected by the mulch, could burrow at their leisure and feed on the roots without being discovered.—A. E. Vandervort.

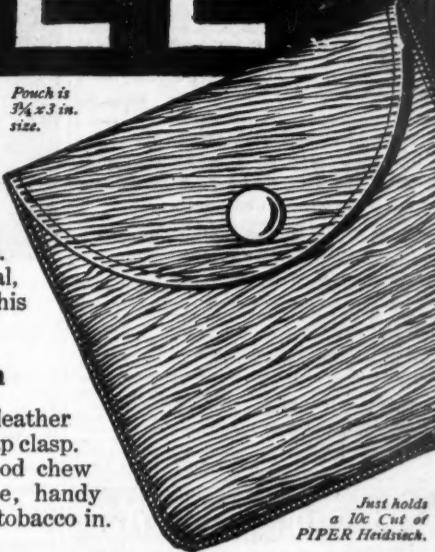
The Apple Crop.

This is an off year for apples. The crop is short, both in this country and abroad. Probably, therefore, less will be heard than usual about apple "over-production"—the complaint that is usually heard in apple raising regions when the price drops to two dollars or less a barrel and when fruit remains ungathered in the orchard. The chief trouble with the American apple crop, whether it is large or small, is the poor system of distribution. The apple is a fruit of so many virtues that such a thing as too big a crop is almost an impossibility in this country. The people like apples and would eat millions of barrels more. The trouble comes in getting the apple from the orchard to the city consumer—a trouble not confined to apple distribution, but apparently worse in the case of apples than some other commodities.—Boston Herald.

The Okanagan United Growers, Ltd., of British Columbia, have just contracted for the export of 30,000 boxes of apples to Australia, on the basis of \$1.40 per box f. o. b. Okanagan points, says the Watsonville Pajaronian.

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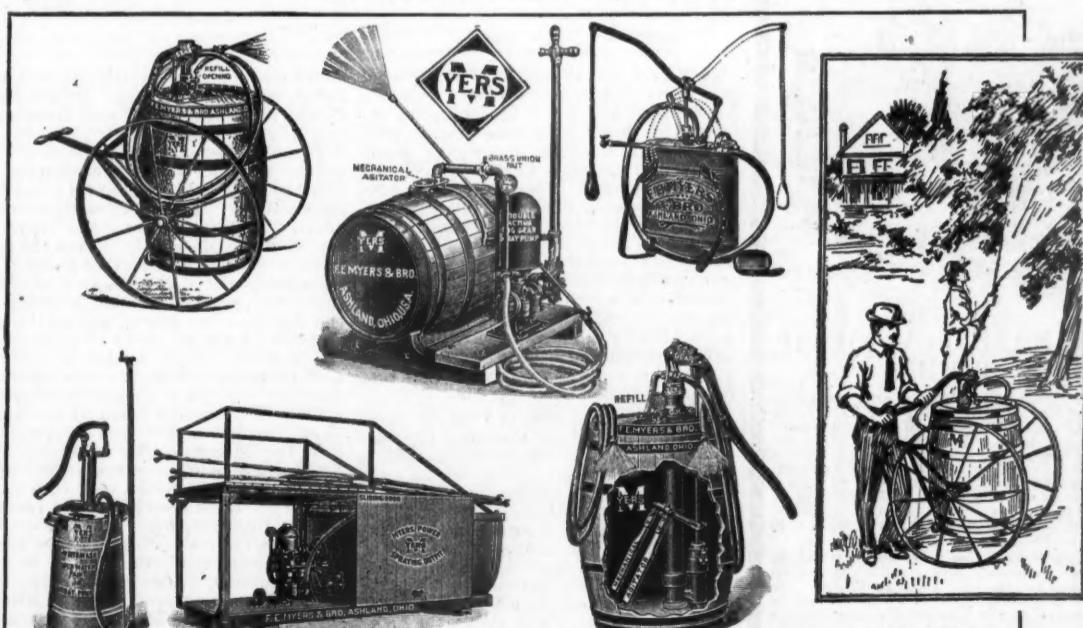
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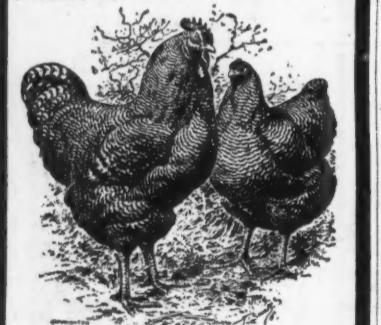
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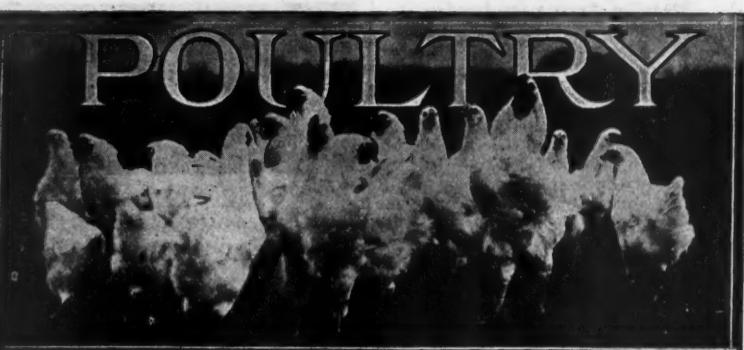
This breed is as solid as its name and is often called the "Farmer's Friend," the "All Round Fowl," the "Old Reliable." It is the bird for business, and deemed by many the best fowl for farm and home raising. It is not only a good layer, but is quick to develop for the early market. As a far-sighted farmer once said to us, "When you kill one you've got something." Price of Barred Plymouth Rocks: Cockerels \$3.00, \$5.00, \$10.00 and \$25.00; Pullets, \$2.00, \$2.50 and \$5.00; Trios, \$6.00, \$8.00 and \$10.00.

We ship no cull birds. The lowest priced birds offered are standard bred, practically as good for breeding purposes as the higher priced birds. The \$5, \$10 and \$25 birds offered are the pick from the flock containing the largest percentage of standard points and therefore commanding a higher price since it makes them eligible for show purposes.

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How to Manage an Incubator.

Written for Green's Fruit Grower by

J. S. Underwood, Illinois.

Incubators need careful management, as any neglect is attended by non-success. It is most necessary that each part of the machine be understood, and it is a wise plan, if it is possible, to ask the manufacturer or his agent to explain its mechanism, and to start it working. If this cannot be done, the rules and regulations that accompany the machine should be carefully read, while each part of the incubator be closely examined.

It is an unwise investment to buy an incubator just because it is cheap, for it never gives as good results as one that is made of well-seasoned wood, with the latest improvements. A perfect machine is one that imitates nature closely. For a novice, a fifty-egg incubator is sufficiently large, as the initial attempt at artificial incubation is rarely fraught with success. Those fitted with patent egg-turning arrangements are highly commendable, as they permit of the eggs being turned with the minimum of trouble.

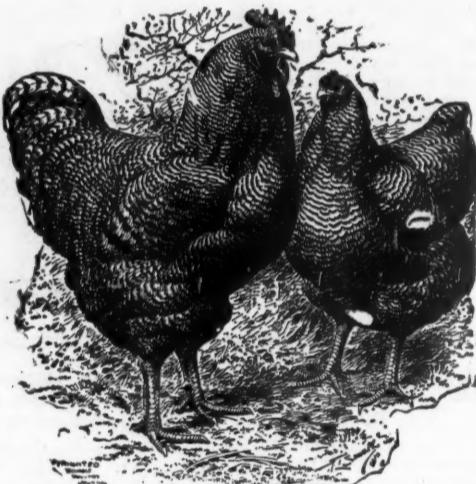
Some incubators are not provided with damping trays. This sometimes proves a mistake, as the supply of moisture required depends, to a great extent, on the

All eggs placed in an incubator should be quite fresh; where it can be managed, they should be put into the incubator the same day they have been laid. They may be two or three days old, but the most successful results are obtained from new-laid ones. The eggs selected should be of an even size; very small or very large ones should not be chosen, as they often prove unfertilized.

When the incubator has been properly heated the drawer should be filled with the eggs and placed in the machine. The lamp must be kept burning steadily and the temperature maintained at about 103 degrees. This is the correct heat for incubation, and it should not be allowed to vary more than one degree either way. Night and morning the eggs must be turned.

The lamp needs daily attention; the wick will be found to require trimming, and the oil-container will need more oil. Each day the eggs should be aired, ten or fifteen minutes being allowed, as if more time is given it takes too long to get up the proper temperature again.

After the eggs have been in the incubator for a week, they should be tested to see if they contain a developing germ. Hold a lighted candle behind each egg; an unfertilized egg will be found to be abso-



Barred Plymouth Rocks.

place where it is at work. If it is placed in a damp atmosphere no extra moisture will be required; but if kept in a dry atmosphere, it will be a wise plan to provide moisture, or the membrane inside the shell of the eggs will get tough, and the chickens will experience great difficulty in pecking their way out. A drying box for the chickens when hatched is essential. There are other points with up-to-date machines, and almost every manufacturer has his own particular improvements, which are explained to purchasers. Usually a good firm will sell an excellent incubator, and it will be wise to buy one that has been used with success by well-known poultry farmers and that is reputed to be highly efficient.

To obtain good results from an incubator, care should be taken that the temperature of the place where the machine is kept does not vary. To secure an even temperature it is a good plan to place the incubator in an outhouse; this should be locked up, thus preventing the opening and closing of the door as much as possible. The building should be well ventilated at the top, and be free from draughts. The machine should be placed in the middle of the house, as this allows the air to circulate around it; it should never be put in a corner or against a wall, as fresh air is essential during the process of incubation. The incubator should stand either on a low form or on the floor; this allows the heat inside to be regular. If the egg-drawer is but half an inch lower at the front than the back, the front will not be as warm as the back. It is important, therefore, to keep the machine perfectly level.

lutely clear, while a fertile egg will have a dark spot in the center. Infertile eggs should be taken away, and fresh eggs, carefully dated put in their place.

To warm the eggs before putting them in the machine keeps the temperature even; to place cold eggs into it lowers the temperature. It is necessary to make use of the damping tray if the weather is dry, or if the place is dry where the incubator is kept. On the other hand, if the machine is placed in a damp atmosphere the damping tray must not be filled. If the chicken is too wet on leaving the shell there has been an excess of moisture; if the toughness of the membrane inside the shell prevents the chicken leaving easily, there has not been enough moisture.

When the chickens begin to hatch they should be left alone; they will need no food for 24 hours after hatching. The first meal should be composed of bread crumbs and hard-boiled egg; this should not be given till they have been removed to the foster-mother. If these suggestions are followed there is every reason why artificial incubation should be a decided success. Of course experience counts for a great deal, but even a beginner will find that after a few attempts (even unsuccessful ones) things will turn out well, and subsequent attempts will well repay his care and attention in the earlier efforts.

Edwin's Destiny.

"Where's Edwin?" asked the rooster. Said his wife, "I've got a hunch that Edwin's new fried chicken, for he's just gone in to lunch."

—Dallas News.

Poultry Notes.

Drafts cause colds, and colds cause roup, and roup usually means death.

The hens can get neither worms nor bugs during this freezing weather. A bit of meat would taste pretty good to them now.

Incubators and brooders should be overhauled now and placed in good order for the early hatching season.

A shelf a couple of feet below the roosts is handy to catch the droppings and handy to clean. And don't forget to clean it.

There is still a belief among some people that hens mated will lay better than those unmated.

Important qualifications in a hen are that she shall be a good feeder, bright, clear-eyed, quick in action, clean and not scared.

Most of the diseases of the feet with poultry are caused by having the roosts so high that the fowls are obliged to jump down some distance.

There is no sentiment in a hen. Her only object in life is to get enough to eat. If she is given that and a warm, well-ventilated house to sleep in at night, a dry, sheltered place in winter, she will do the rest.

That it will pay the average poultryman to trap-nest his flock in fall and winter months, and breed from the pullets which lay earliest in life, as well as from the pullets and hens which lay in the winter.

Limber neck is simply paralysis of neck muscles caused by several things—poison imparted by rotten meat, maggots, mold, worms and even acute indigestion.

Bleeding under the left wing is an old-time remedy for limber neck. Fifteen drops of nux vomica in one pint of drinking water has often effected a cure.

During cold weather, all prepared chicken foods such as mashes and boiled vegetables, should be salted in about the same proportion as for human food. If this is done, the poultry will be both healthier and more productive. Dampness in the poultry house at this season usually means not enough fresh air or too many fowls in the house (not enough cubic foot air space per bird). An over damp coop is a favorable place for the development of colds and roup.

During the winter months the drinking vessels should be emptied each evening to prevent the hens from filling up on cold water in the morning. The fresh water from the faucet is much warmer than that standing in vessels over night and we find it makes quite a difference in the egg yield.

For winter feeding of green stuff rely largely on mangels and other roots, and to some extent on pumpkins and squashes. Mangels and the overgrown table beets gathered in the fall and stored in the vegetable cellar are particularly useful. Every poultry keeper ought to have a patch of mangels, of suitable size, in his garden. Sprouted oats in winter furnish the desired green food while the grain has a nutritive value.

Dry forest leaves form an excellent article for putting in the poultry scratching shed, and make a fine fertilizer for the fields after being used.

The hens will stand severe still cold much longer than simply frosty wind. Cold is never so hard on chickens as rains and wind. Sneezing, sniffing and gaping will often set in for the flock after a wetting from a cold rain, or shivering about in a frosty wind. This is why every chicken house should be furnished a scratching shed adjoining it, and one you can shut up on rainy, windy days, or when the weather is severely cold. Keep the scratching shed deep in clean straw or clover or alfalfa hay, but don't leave it until it gets damp under their feet, and soggy.

Extent of Egg Exports.

While the total number of eggs produced by the domestic hen in this country during the last fiscal year has not been compiled by the Agricultural Department, some faint idea of the enormous volume of the output can be gained from the fact that the customs reports show that 121,000,000 dozens were exported to foreign countries in the twelve months. It would be reasonably safe to estimate that the egg crop closely crowds the corn crop, or would if accurate returns could be obtained of the number consumed in the families of the farmers. The quantity exported has rapidly increased in the last twenty years, and the entire product doubtless increased in proportion. It is reported that in 1903 the value of hen's eggs exported was \$33,297, and in 1913, \$4,391,653. The hen is coming into her own.

Green's Fruit Grower Co.:—I wish say that I have much enjoyed reading Green's Fruit Grower; its sanity on all questions regarding the social order; the clearness of its counsel and the strenuous advocacy of the merit of rural life, have pleased me greatly. —Rev. Bernard Copping, N. H.

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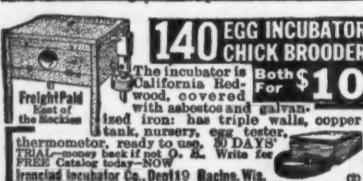
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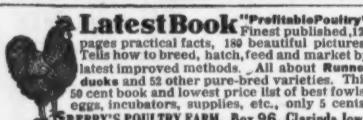
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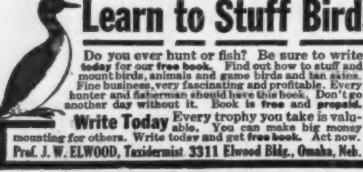
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Timely Poultry Hints.

Written for Green's Fruit Grower by
Oliver N. Andrews.

Green bone is an excellent food for the hens, containing all the constituents that help to form an egg.

Repair the leaks in the roof of the poultry house. Their quarters should be free from dampness or else diseases can be expected.

It is a slow process trying to fatten fowls for market when they are given much range. Confine them in small quarters and feed all the grain they will eat.

Systemize your work around the poultry. Usually a little planning will save many steps. Keep the feed in some place near the houses. If possible, have the water supply near enough so plenty can be used without much labor.

Keep watch of the fowls' combs. In health, they should be a bright red. Pale or black combs indicate disease. Fowls should never be kept where it is cold enough to freeze their combs or wattles.

A thousand hens, if properly cared for will keep a good man busy nine hours a day. Such a number ought to realize a good year's salary. A dollar a head is a good profit under the average conditions.

Clover helps swell the profits of the flock, just as surely as it helps increase the flow of milk in the dairy herd. Plan for a good-sized patch next summer.

Save all the poor cabbages as well as the good heads. The hens relish them to good advantage during the cold months. They also like turnips chopped fine.

When going away for over night, get a trustworthy person to look after the poultry. It may mean a saving of many dollars. When night comes, the houses should be closed against all nocturnal enemies.

prove the fruit. Not near as much worm-eaten fruit will be found where the hens and chickens have a run among the trees. They eat much of the fallen and decayed fruit, also all the insects that caused it to decay, thus removing the danger of having other damaged fruit. Then on the other hand the poultry derives great benefit from having an orchard for a run. They have shade in warm weather, which is very necessary for all kinds of poultry, and the trees serve as a wind-break during stormy weather. Then the fruit and insects the hens have to eat, help greatly in balancing up the rations and reducing the food supply bill.

Fattening Poultry.

A hen on range seldom carries enough fat to put her in the first class as a market fowl. Before selling, the hens should be penned for a week or ten days and fed a special fattening ration, says the Indiana Farmer. A gain of a pound or a pound and a half can usually be made in ten days. The quality of the flesh also improves, a real fat hen usually commanding a premium of two or three cents per pound over the one in ordinary flesh.

The following is a good fattening ration: Three parts corn meal, one part each of shorts, ground oats and ground buckwheat, and ten per cent meat scrap. Mix well and wet down with skim-milk or buttermilk. Feed three times a day, all they will eat up clean in ten minutes.

Care of One Thousand Hens.

Can one person successfully take care of 1,000 hens and do all the work himself?

A person can take care of 1,000 hens and do the work satisfactorily, providing the fowls are kept in large flocks in houses built properly with respect to ease of

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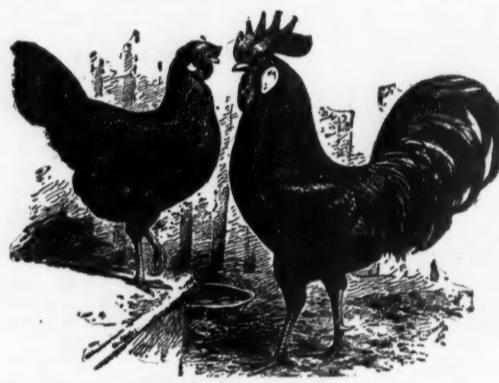
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C. E. BROOKS, 1172 State Street, Marshall, Mich.



Single Comb Brown Leghorns.

Table scraps from an average family will supply nearly enough animal food for a small flock, thus cutting down the feed bill. Every time the feeding expense is diminished the profits swell a little more.

We have heard the complaint of "no profit" in the poultry business. There is money to be made, but not without reasonable care and hard work. Fowls cannot care for themselves, although some flocks are not far from doing so.

It should be the aim of every poultryman to have a well filled egg basket or some other product for the market every time he goes to town. Small and frequent sales mean a whole lot in the course of a year.

Keep just enough cocks for breeding purposes and no more. Feeding several extra boarders through the winter means a dead loss. Fatten them and hustle to market unless they can be sold at good prices for breeding stock.

Do not take eggs to market piled into a basket like potatoes or several may get broken. If possible have a crate with cardboard partitions. Otherwise pack them in sawdust or bran, and they will travel safely over the roughest road.

Keep ahead of the game by purchasing needed breeding stock in the fall or early winter. Prices are usually higher in the spring when the demand is greater. Buy only from reliable dealers.

Unless the merry cackle of the hens brings a smile and quickens the pulse something is lacking. It is enthusiasm and a genuine liking for the work. The best results cannot be had with half-hearted efforts.

Any person interested in poultry cannot afford to be without at least one good poultry journal. Most of the best farm magazines have good poultry departments and there ought to be several in every home.

Sunshine is a necessity in the poultry business. Dark damp quarters will mean failure, no matter how good care is given other ways. Some farmers will keep hens in a filthy barn cellar and expect them to do well.

Poultry and Fruit.

Raising poultry and fruit makes an ideal combination. There is both money and pleasure in the business, says the Southern Fruit Grower. The fowls seem to im-

operation, says New York Farmer's Institute Reports. This would not include the labor of hatching and rearing chickens, nor would it necessarily include the packing and shipping of eggs and poultry to markets. Where fowls are kept in flocks of one hundred or more, and the modern labor-saving appliances are used, one man should be able to care for 2,000 hens so far as actual feeding of the fowls, cleaning the houses and gathering the eggs are concerned.

However, on a farm where 1,000 hens are kept, usually two or three persons are employed to do all the work of caring for livestock and crops and marketing products. Much depends upon the kind of farming and methods of marketing, whether retail or wholesale, and whether eggs or stock are sold for breeding purposes.

Hen Droppings in Orchard.

A government bulletin says that "hen manure is very rich in fertilizing constituents, especially nitrogen, due to the fact that, in addition to the undigested residue of the food it contains, the urinary secretions, in which are large amounts of nitrogen as well as potash in readily available form, are voided with the solid excrement in this class of animals," says Rural Life. When the manure is not applied to the land and thoroughly incorporated with the land, when fresh, it is better to mix it with dry earth, muck or land plaster, which will hold the ammonia. Sand as such is but a poor absorber. The best way to apply the manure to the peach orchard would be to compost thirty pounds of it with ten pounds of sawdust or dry loam, sixteen pounds of acid phosphate, and eight pounds of kainite. This mixture carries about 1.25 per cent. nitrogen, 4.5 per cent. phosphoric acid, and two per cent. potash, which applied at the rate of two tons per acre, would furnish fifty pounds nitrogen, 185 pounds phosphoric acid, and eighty pounds potash.

In your case, and if the hen manure is taken at once to the orchard and stirred in within a few feet of the trees, while barn-yard manure is used to cover the surface keeping it moist and supplying the needed potash and phosphoric acid, the best results should be obtained. Four or five pounds of hen manure applied once per year, should be sufficient for the trees.

METHODS IN KEEPING EGGS.
Sterile Eggs Less Likely to Spoil than Fertile Eggs.

By J. S. Abbott, Food and Drug Commissioner of Texas in American Food Journal.

Bread, meat, milk, butter, water and eggs are the most important articles of food. The Texas Food and Drug Department has therefore given much time to the sanitary and unsanitary methods of handling and the production of these products. If these articles of food did not decay, and if they did not carry disease germs into the human system, there would not be any very great necessity for a pure food law. But they do decay, and they do carry disease germs, if they are not produced and handled properly.

There is absolutely no excuse for a bad egg. It does not even require extra labor or extra expense to produce an egg that will not spoil in a hot climate like ours. More than that, an egg that will not spoil is a better egg and will bring a better price upon the market than our common market eggs. And still more than that, hens will lay more eggs that will not spoil than they will of the kind that do spoil. Now, then, what is the plan? Simply "swat the rooster." Separate the hens and roosters after you get all of the eggs you want to hatch and keep them separated all the summer. Hens will lay better without roosters, and will lay in-

degree above freezing. This method of preservation is practiced upon a much smaller scale than the old method, for such eggs are not in suitable form to be used by the housewife.

Poultry and Fruit.

The near-the-city farmer must realize the necessity of growing things for which there is a steady market at good prices. He must grade his produce carefully and offer it for sale in a clean, attractive condition. He must also grow things which will give him an income throughout the late spring and late autumn as well as summer, so his crop season will be a long one; so as to keep all his time profitably occupied; so he will have something to sell during the greater part of the year.

His poultry will yield a big income during the winter, if properly managed, and a few peach, pear, cherry and apple trees will furnish fruit for canning and preserving in the winter and late autumn. His winter cabbage, turnips, spinach, potatoes and onions should guarantee an income far into the winter. By this means there would be not more than three months between the marketing of the old crop of potatoes, onions, apples and canned fruit and the selling of new onions, lettuce, radishes, etc., while with good management his hens would do their part toward filling the market basket every

Biddy The Hen.

The lost egg—more plainly, the bad egg—costs the family circle of the United States over \$66,000,000 annually. This loss is by no means the fault of Biddy, the hen, who does her thrifty part to solve the "high cost of living," laying yearly over \$400,000,000 worth of eggs. Not a bad one does she lay. How then do we, her beneficiaries, manage to despise her of two inferior twelve of her gifts?

Biddy's product is kept by the farmer a week or two or more before it gets to the country store, where it abides another several weeks before shipment to the city commission merchant. From the retailer in due or undue season, Biddy's eggs reach the consumer's pantry or ice-box, and thence appear by relays on his table. Now, here is a problem of delays which Biddy cannot solve, and it is up to us, mere mortals, to do it. Everybody can help a little, and everybody who helps a little is doing a public service—helping to feed our big family.

No less an agent than the government of the United States seeks to sustain Biddy's effort to feed us, and to co-operate with the farmer in getting fresh eggs to market.

The suggestion has often been made that we substitute thrifty productive, domestic Biddy for the eagle as our national emblem. She certainly deserves a position on our coin.—Christian Herald.

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WILL EGG "HUMPTY-DUMPTY" TAKE A "GREAT FALL?"
—By Carson in Weekly Inter Ocean and Farmer.

fertile eggs. Infertile eggs will not spoil, even in our hot climate, if they are kept clean and dry. Bacteria, which abound in filth, will penetrate the egg shell and decompose the egg, if it be kept in a damp unclean place.

What is the truth about water glass? It is a silicate of soda. The method of its use is this: It is dissolved in water. This solution is poured into a keg, barrel or other container over the eggs. This prevents bacteria from getting into the eggs through the shells. But it does not prevent the chick germ of a fertile egg from growing at our summer temperature as long as there is any oxygen in the shell. After two or three days' growth, all of the original oxygen in the shell is consumed and the chick smothered and dies. Then the egg contains dead animal matter. It is a spoiled egg. An egg not fit for human food.

Eggs are commonly preserved in the shell by cold storage. If they are kept in a modern cold storage room at a uniform temperature and at a proper degree of humidity by themselves they may be kept in a fairly fresh and wholesome condition for several months. The bad flavor of cold storage eggs is due to a multiplicity of causes, some of which are known and some of which are not known. At any rate, it is known that eggs in cold storage slowly but gradually and certainly deteriorate and finally become unwholesome. This may happen in from five to ten months, depending upon the efficiency of the cold storage room.

Eggs may be broken and put into cans and frozen hard and kept for a longer period of time than by the ordinary method of storing in the shell, at a slight

day in the year. So no ambitious, hustling young farmer need be discouraged, or feel cramped because he has a small farm sandwiched in between large ones owned by his neighbors, who refuse to sell him any of their land, provided he is reasonably close to a city. Many farmers are "land poor," while many become rich on ten acres, where conditions are right. A hustling, energetic, persistent, pushing disposition is the first thing necessary. Given such a disposition, together with intelligence and good judgment, and a young farmer might do better on ten acres than his neighbor on his hundred-acre grain farm in some distant neighborhood.

Oats For Poultry.

Thrashed oats is fine for fowls, if fed intelligently. They will sometimes produce crop-bound if fed too freely when first fed. Almost any dry, bulky rations will produce crop-bound when fed in large quantity. However, oats is a very valuable ration for fowls but we would prefer to feed it alternately with a mash food made of pure wheat bran, hominy feed and shorts. The standard weight for oats is 32 pounds to the bushel, but it must be remembered that there is no grain so variable in weight per bushel as oats. Ordinarily oats when it approaches the standard weight per bushel makes fine poultry feed. Oats is selling here in the market at 50 cents per bushel. You will find that the fowls will refuse to eat fiber portion of oats—eating only the best of the grain. Oats when fed intelligently and alternately with other foods, is a great egg producer.—Indiana Farmer.



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Johnson was an engineer in his early life. Maybe that had something to do with it. But he tells his own story of his *ups and downs* in the Old Trusty catalog, so you can get it direct from the book. You will get a lot of ideas from this book. You will realize that no matter where you live, if you have a little ground for poultry to run on, you can make a big extra income and it needn't interfere with anything else you now do.

Johnson's customers keep all the mystery and the trimmings and experiments out of their poultry business. They stick close to the simple ways and make much and spend little on their outfits.

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Please mention Green's Fruit Grower.



Starting a Small Fruit Farm.

Mr. C. A. Green:—I have a place containing 6 acres of land: 2 acres grass and balanced run-out soil; has some blackberries and a clump of poplar trees.

Would like to get this into shape for fruit and poultry, and ask your advice. Soil very sandy, lays on a hill, though nearly level, sloping to south and west. Apples, pears, plums, and cherries do well here also small fruits, but only once in a while a tree, no fruit ranches altho a town of over 3000. Would you advise small fruit, and vegetables for quick returns while large trees are growing?

Would poplar trees from three to ten feet high be profitable to transplant for shade or on the road?

Would it be better to plant where there is good grass at first and then more planting where the other soil is in shape?

Would only begin on a small scale, 50 or 100 trees and bushes this year, more later as I learn the business. I understand vegetables some but not fruit. Enjoy the Fruit Grower very much.—Mrs. Fannie P. Smith, Vt.

Reply: I advise those situated as you are to have an assortment of small and large fruits growing on your place, the

contain enough lime to perform these functions. The supply of nitrogen in the soil is largely maintained thru the aid of nitrogen-gathering bacteria which work on legumes, such as clover, alfalfa, soy beans and vetch. These small organisms have the power to take nitrogen from the air and, after using it, convert it into an available form of food for plant growth. These bacteria do not thrive in acid soils. Clover, if it grows on such soils at all, fails to develop nodules and does not increase the nitrogen supply in the soil.

The United States Bureau of Soils, after making a soil survey of Butler and adjoining counties in Pennsylvania, recommended the use of lime as a means toward making our local soils more productive. In the maintenance of soil fertility, the crop producing power of a soil, lime has unquestionably won a very important place in agriculture. The recognition of the value of lime in farm practice is not new. Pliny, in his writings testified that liming was practiced by the Romans more than two thousand years ago. In England, Germany, France and other European countries, the application of lime in the form of marl, shells, and



"And I am keeping only this! The rest I sent back."—Le Sourire (Paris).

amount of each to depend upon your ability to manage or to hire someone to manage for you.

When I began fruit growing I had a small patch of strawberries, also one of red and black raspberries, one of blackberries and currants. I planted a small orchard of apple trees, a few pears, plums, quinces and peaches, and a few grape vines. By having an assortment of fruit I had something to sell nearly all the time. When I went to market I could usually carry an assortment of fruits to retail to the consumers at their homes.

If your soil is light and sandy it may need some additional fertility in the way of barnyard manure or commercial fertilizers.

Small trees of the poplar are just as good as larger trees or even better for transplanting, but they can be transplanted when 10 feet high if not too old or heavy. The land now in grass would have to be subdued before shall fruits or trees could be planted there.

Lime and Soil Fertility.

Lime, considered as the source of calcium, is one of the ten essential elements of plant food. As such, it is required in only small amounts, and it is probable that nearly all soils contain enough to satisfy the direct needs of the plant, says Pennsylvania Farmer.

Lime, considered as a basic material capable of neutralizing acids, has other and not less important functions to perform. Many acid or sour soils do not

limestone, has been and is still practiced extensively.

The fertility of our soils can only be maintained by intelligently following the practices which long years of experience by our best farmers have demonstrated to be correct. In modern agricultural practice the factors, organic matter (humus) and lime, are of vital importance to the farmer, and the community at large as well. "Public prosperity is like a tree; agriculture is its roots; industry and commerce are its branches and leaves. If the root suffers the leaves fall, the branches break, and the tree dies."

This is the philosophy of the Mongolian people who have maintained some of their soils for more than 4,000 years.

Best Cherry Stocks.

Chas. A. Green:—1. Kindly advise me as to which is the best to have the following sweet cherries root grafted on to, the native American Mazzard or the imported Mahaleb stock? The varieties in question are Black Tartarian, Windsor, Napoleon and Gov. Wood.

2. Which of these stocks do you use at Green's Fruit Farm?

3. Would you advise planting the Bing and Lambert cherries in northern Ohio.

4. What varieties of sweet cherries would you advise to plant in northern Ohio and what time of year should same be planted and should 1, 2 or 3 year old trees be used?

5. Give description and history of the Syracuse Red Raspberry also Ruby Red and state cause of the Syracuse roots being so high priced?

6. Should red raspberries be grown in hills or in hedge rows?

7. Would you advise growing the Columbian raspberry for canning factory use and is it productive?—Subscriber, Cuyohoga Co., Ohio.

Reply: The Mazzard is the best for all sweet or Heart cherries, but it is more fruit.

difficult to propagate them on the Mazzard, thus the Mahaleb is more often used by nurserymen. At Green's Fruit Farm we use both Mazzard and Mahaleb.

Yes, plant Bing and Lambert in northern Ohio if the thermometer does not go below ten degrees below zero. Black Tartarian, Lambert and Napoleon are valuable sweet cherries. Do not plant cherry trees older than one or two years. Plant as early as possible in the spring.

Plants of Syracuse are not easily propagated, as this variety makes but few sucker plants, not one twentieth part so many as does the Cuttbert. That is why the price of Syracuse is high. It is one of the most valuable varieties ever grown, large, luscious and very productive. Red raspberries should be grown in hills five feet apart and cultivated both ways. Yes, I would plant some of the Columbian raspberry for canning. It is a great producer.

How About That Boy?

Give them a chance. A boy isn't necessarily all bad because he tells a fib or loots an orchard. Put them on their honor, these youthful offenders, and see how they come back. We've tried it in Portland, and 98 per cent. of the accused have never come before the Juvenile Court a second time.

A boy is not necessarily morally or mentally deficient because he tells a lie. First remember that the child must have an understanding of right and wrong.

A child may steal and still not be defective. There is an apparent weakness in a case of this kind but there are milder methods of correction.

Cigarette smoking is not a stamp of defectiveness.

It is a mistake, in my opinion, to treat a minor offender as a defective because of some petty offense. I've robbed many a cherry orchard myself.

Don't make the boy believe he is bad. A commission of aliens or a so-called psychologist may make a mistake and damn a normal child for life.

Judge Frazer, of the Seattle Juvenile Court, was quick to respond. He upheld the study and investigation of those whom he designated as scientific men, and contended that far more crimes and misdemeanors are traceable to physical defects which reflect upon the nervous system than is generally believed.

Small Fruit on a Farm.

Mr. C. A. Green:—We have just purchased a farm and wish to put a part of it into small fruits but do not know just which kinds are best adapted to our climate, etc. We plan to put about $\frac{1}{4}$ or $\frac{1}{3}$ acre in strawberries, and about the same in raspberries and blackberries, also a few gooseberries and currants. Our land slopes directly to the south with a slight tip toward the west. The ground is a very mellow light loam, and garden truck like carrots and parsnips do exceptionally well. We are about nine miles north of Keene, N. H., and about a five minute walk from a small lake which holds the frosts from us in spring and autumn.

Would the Banana apple do well here, and where can I get some scions for grafting? Just a few to try.—W. C. W. Deemerse, N. H.

Reply: You can get better advice from your neighbors in regard to the adaptability of your soil to the different fruits than you can from anyone living so far away as I do. Currants succeed almost everywhere at the north. The important question with you in regard to small fruits such as raspberries and blackberries and in regard to varieties of apples, is whether your winters are severe. If they are severe you will need to get very hardy varieties. You can grow strawberries if your winters are severe by mulching them during winter. The lake though small will be helpful. The Banana apple though reasonably hardy is not so hardy as Wealthy, Ben Davis or Northwestern Greening. Thanks for \$1.00 sent for subscription to Green's Fruit Grower for 3 years.

Cherry Grafting.

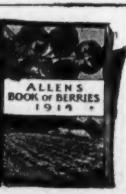
Green's Fruit Grower:—Can anyone tell me if cherry grafting is a success and why? Also does anyone know who has the Lambert and Bing cherries and what success? I read in a late Fruit Grower that they are considered hardy in this country. I know them well in Oregon and they are fine there and would like to know their success here.—Mrs. Susan B. Allen, Pa.

Reply: Cherry trees can be successfully grafted but they are more difficult to graft than the apple or pear. We have the Lambert and Bing cherries at Green's Fruit Farm but have not fruited them as yet. They have been fruited for sometime on the Pacific coast where they give remarkable results in large and handsome

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Cultivation of the Orchard.

Most farmers who have the home orchard of 50 or 100 trees on their farm seem to regard this portion of their equipment as a source of perpetual income, needing no care or attention other than harvesting the fruit, says Pennsylvania Farmer. They have awakened to the fact during the last few years that the old methods of neglect, as practiced by their fathers, will no longer bring results. Their orchards have ceased to bear marketable fruit and have become a public nuisance in that they are a breeding place for myriads of insect pests and fungous diseases. Does it not seem incongruous when the commercial fruit grower must do everything known to horticulturists in order to bring good fruit, that the farmer should expect even partial success from a system of neglect? Aside from thorough spraying, there is no one operation that will do more to provide good fruit than cultivation.

The apple, depending upon variety, contains about 75 per cent. or more of water. The leaves of the tree evaporate or breathe out about 275 pounds of water per pound of dry matter per growing season. Let us figure roughly how much water this represents—supposing that the tree yielded 5 barrels of apples. These 15 bushels of apples contain 675 pounds of water. The leaves, supposing there were 200 pounds of dry matter, would represent 55,000 pounds transpired during the season. This makes a total for the tree of 55,675 pounds, and counting 27 apple trees to the acre, would mean that during the growing season each acre must give up to the trees, 1,503,225 pounds of water, or 751.4 tons.

During each season, at some time, there is usually a more or less protracted drought during which time water is very scarce. How can we expect our acre of home orchard to get its 751 tons of water unless we help nature and conserve our water supply? During the winter and early spring, nature supplies us with an abundance of water; so much that the soil goes beyond its point of saturation. What folly it is to let this water waste itself through the underground channels when by a little care we can save it for use during the summer and change it into big juicy, marketable specimens of fruit.

The secret of this conservation process is cultivation. Cultivation is merely an artificial means of preventing soil water from evaporating through the surface into the air. The force of capillarity, or capillary attraction, is constantly pulling this soil water to the surface and unless we provide a check the water will evaporate into the air and be lost.

Cultivation provides this check by forming a dust mulch or blanket over the surface, so that the water is drawn by capillary force up to this mulch and then stops, since the capillary attraction is broken. Hence we can in this way turn the rain and snow water of the winter into high priced apples.

The old orchard should be plowed as early in the spring as possible—not too deep, for deep plowing will cut off a large part of the tender growing roots which forage for the tree's food. Three or four inches is deep enough. Cultivation should then be begun with a disk or spring-tooth harrow. Cultivate once a week at least and if possible, twice a week, up until the end of July. The tree must have time to harden its wood so that it will not winter kill, and by stopping cultivation at this time growth is checked and all vitality goes to harden the new wood. Sow a cover crop in the orchard—crimson clover, rye and vetch or cowpeas are all good and will provide humus for next year.

The old orchard has stood by you for many years and given you hundreds of barrels of good fruit. Is it not only fair that you should stand by it during its last years and give it a little care? It will repay you liberally.

Hams and Corn Cobs.

"Smoked over a corn cob fire?" laughed the market man. "Never heard of such a thing. Heard of making beds for the pigs out of corn cobs, but I guess that's about all they have to do with making pork. No mistake about that fire, is there?" says North American.

The visitor said there was no mistake. He told the market man how he used to go to the mill and get corn cobs. He took them home and his father put some of them on live coals in a pan of ashes and set them under a barrel in which was hung two, or at the most four, hams, which had been properly cured according to a formula few persons seem to know nowadays.

HOW HAMS WERE SMOKED.

Some folks had smoke houses and cured more than two hams at a time, but mostly the community was wedded to the barrel notion. In either case when it was guessed that they had been smoked enough, the hams came out richly brown on the outside and, pink—not red—inside. And they were hams—fat, tender and not stringy, lean with none of the modern

Cultivation of the Orchard.

preservatives that make it adamant when placed over a fire, and without that unpleasant taste down next to the bone that is found in so much of the machine-cured product. With old-fashioned buckwheat cakes—the kind made with "emp'tins'" and set to rise over the night—it made a breakfast worth talking about.

It was found then that few hams of the old-fashioned kind come into Philadelphia. They were never shipped away much in the old days. Each family tried to make just about enough to take it through the winter, with the help of the pork laid down in the barrel and the corned beef laid down in another barrel. But there are a great many people in Philadelphia who would like to get hold of them when they do their fall marketing. They would have to pay well for them, too.

SCRAPPLE AND SAUSAGE HIGH.

Since the first day of October, which is scrapple and sausage day almost as religiously as the fifteenth of September is the day of the winter hat, markets have been filled with the foods needed in cooler weather.

A good many folks are buying their pork and making their own sausage with their food choppers nowadays, which is a good way to be sure that it is right.

The brilliant red of the baskets of crab-apples strikes a pleasant note in the green of the market stalls, but think of paying \$1 a basket for these when you remember the time you could go and shake a neighbor's trees and the more you carried away the better he liked it.

Sober brown of the chestnuts contrasts with the red of the crabapples.

Fruit Instead of Grain.

Much more food can be grown on an acre devoted to fruit than can be produced with any kind of grain, says Campbell's Scientific Farmer. Fruit growing also provides a greater amount of work and requires a larger number of helpers. To the extent that fruit growing is substituted for grain growing there will naturally be an increase of country farming population. This is what is the most needed to make land valuable. The growing of grain makes the land poorer, especially where the grain is sold. Where fruit is grown the chief loss to the soil is in the mineral elements, and the sale of the fruit brings money to purchase these. Selling grain never returns enough to restore the fertility expended in growing.

The World Our Schoolhouse.

The first factor in the larger education is this world in which we live and love and work and weep and laugh and die. For in no mere figurative sense, the world is our schoolhouse. Nothing short of this vast, mystic, wondrous world justifies the institutions of learning throughout our own land, throughout all lands. The little red schoolhouse on the hillside, the log cabin at the country crossroads, the pile of buildings emphasizing the importance of the modern college and university, the dream of a Brooklyn University which is to come true, and gloriously true—all exist for the purpose of showing students how to find their way, physically, mentally, socially and morally, about this great schoolhouse named the world.

Emerson had this truth in mind when he said: "He who knows the most, he who knows what sweets and virtues are in the ground, the waters, the plants, the heavens, and how to come at these enchantments, is the rich and royal man."

Ah! the world is packed with enchantments and education is the magician whose golden hammer breaks down the four walls of the classroom, sending the scholar forth to behold the limitless horizons of the world, and all that is within them. Education naturalizes us as citizens of the universe. Shame on the man who is so local as to be purely national or international, when God wants him to be universal. As the old mystic expressed it: "The universe, vast and deep and broad and high, is a handful of dust which God enchanteth." Ours is an enchanted universe, and oh, what unspeakable splendors lie hidden within this handful of dust!

Warning.

The minister was coming to dinner, and the lady of the house killed a rooster in his honor. Her little boy was very much annoyed, and thought it cruel.

Some time after this the lad saw the minister coming up the road. He ran into the yard and began putting all the hens and chickens into the roosting place, saying all the time:

"Shoo, shoo! Here comes the man that ate your father!"

Mr. Chas. A. Green:—Allow me to add my testimonial to the fact that Green's Fruit Grower is really a paper "with a mission." It is invaluable to me.—John Boler, Sawyer, Wis.

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It Points The Way To
BETTER CROPS-BIGGER PROFITS



EVERY farmer, fruit-grower and truck-gardener needs this book. It is not merely a catalog. Over 30 pages are given entirely to description and photographic illustrations of insects and plant diseases that rob you every year of a large share of your profits. It gives you in condensed form and in simple language all the information and instructions you need to combat these pests; enumerates the various remedies which experiment has proven successful and gives detailed directions as to how and when to apply them. I know that if you will send for this book and follow its instructions carefully you will make more than enough EXTRA PROFIT from your acres or your orchard this year to more than pay for the cost of the outfit and the slight labor involved in using it.

This book also contains illustrations, some in colors, of our 28 different styles and sizes of sprayers from small hand-power outfits to large gasoline engine sprayers for field and orchard. It explains in detail our liberal selling policy under which you can buy

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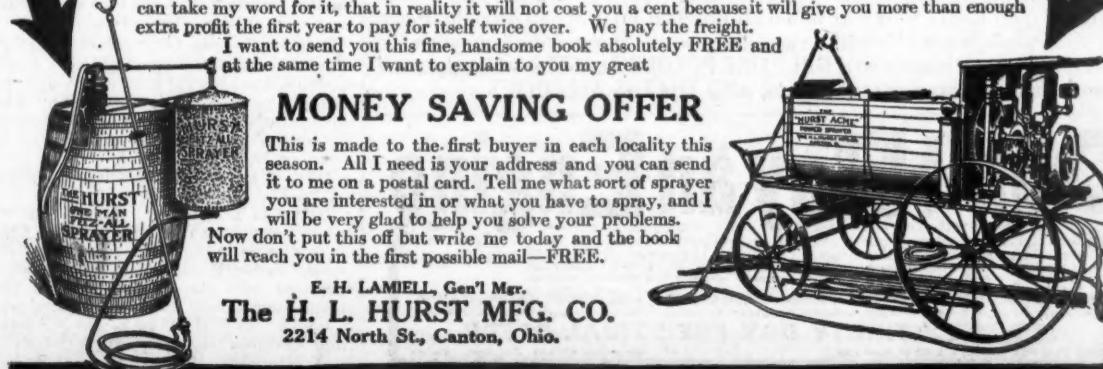
I will ship you any HURST SPRAYER, without one cent in advance, without any bank deposit, and without any agreement to keep and pay for it unless you are thoroughly satisfied. I want you to try it for 10 days and then if it proves to be all I claim for it, you can pay for it on terms to suit your own convenience. You can take my word for it, that in reality it will not cost you a cent because it will give you more than enough extra profit the first year to pay for itself twice over. We pay the freight.

I want to send you this fine, handsome book absolutely FREE and at the same time I want to explain to you my great

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This is made to the first buyer in each locality this season. All I need is your address and you can send it to me on a postal card. Tell me what sort of sprayer you are interested in or what you have to spray, and I will be very glad to help you solve your problems. Now don't put this off but write me today and the book will reach you in the first possible mail—FREE.

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Here's to Loyer, a thing so divine,
Description makes it but the less;
'Tis what we feel, but cannot define,
'Tis what we know but cannot express.

If you receive Green's Fruit Grower and are not a subscriber, it has been sent you upon request of a friend.

Never explain—your friends do not require it and your enemies will not believe you anyway.—Elbert Hubbard.

I can stand for the man with the personal hobby,
And live through the ravings of those who have fads;
But my temper is short and inclined to be knobby;
With the person who says that he never reads ads.

—Judge.

Keep the orchard clear of all dried brush, it being the harbor for injurious insects.

ORCHARD BRAND

The highest compliment ever paid a line of goods is by rival makers when they say "ours are just as good". This compliment for years has been passed on "Orchard Brand Spraying Materials". The term "Standard of Excellence" in spray mixtures clearly belongs, therefore, to the "Orchard Brand" line.

There are reasons why—several of them. The "Orchard Brand" line is complete—it includes a material for every spraying need. All "Orchard Brand" materials are scientifically as perfect as can be made. Each had exhaustive tests, in field or orchard, and in laboratory, before it was placed on sale.

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The "Orchard Brand" line of spraying materials is made with special knowledge of the conditions under which it must be used. The insect life and fungous diseases it is designed to control. With the aid of the special service department the chances and hazards of fruit and vegetable growing are reduced to a minimum when Orchard Brand Sprays are used, each for a specific purpose.

"When to Spray, How to Spray, What to Use" is a condensed

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THE STANDARD OF EXCELLENCE

CORN THAT YIELDS.

Hall's Gold Nugget Corn yielded 100 bushel ears per acre in Chautauque Co., N. Y. It is a magnificent large eight-rowed yellow Flint corn.

New "Bumper Crop" Oats are the largest and Plumpest oats we ever saw grown in this country. Ask for samples of these two varieties of corn and oats.

We also raise Cabbage Seed and Vegetable Seeds of all kinds—Cabbage, Turnip, Radish—the best that can be raised—send for Harris' Seed catalog and buy direct from the growers. In this way you get fresh seeds of highest quality at wholesale prices. Ask for catalog and if you raise vegetables for market, our Market gardener's price list also.

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Harris Seeds are always tested.

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Empire FEEDING MOLASSES 12½¢

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(16)

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Allcock's POROUS PLASTER

is by far the quickest, safest and most certain remedy. Cheap, too. And, best of all, you needn't stay at home all bundled up, but can go right ahead with your work, while the healing process goes on. Lots of imitations on the market, but remember, there is ONLY ONE POROUS PLASTER which does all the work that a porous plaster should do, AND THAT IS ALLCOCK'S.

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until you investigate the Temple slow speed, heavy duty, general purpose engines; 1 1/4 to 50 H. P.; use gasoline, kerosene, alcohol, or distillate; weigh and bulk from 1/2 to 1/2 less than horizontal engines and are built stronger in proportion to strains.

Temple engines quickly return their cost to buyers, by saving 1 to 2 the fuel used by the average engine, and saving man-made efficiency from machinery imported.

Temple Engines Have Won Five 1st Premiums for Low Operating Cost, Stability and Steady Power

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471 Marquette Street, Chicago, Illinois

A Fine Peach Crop.

One of the best peach crops in eastern Massachusetts this year was produced on Fairmount fruit farm, formerly owned by Monroe Morse and now the property of Russell B. Hall, says American Cultivator. About 7000 baskets were sold at an average price of nearly \$1 per basket, a higher figure than was obtained by most growers in this section owing to the competition being produced by the heavy crop. The greater part of the fruit was sold direct to consumers who came from long distances in carriages and automobiles. Much attention was paid to the fruit, according to grade, weight and color and the better price was likely credited to the extra work done in the packing.

The farm shows about 3500 fruit trees, and the average crop was two baskets to the tree. There is still more fruit to come from the 1500 apple trees and the smaller plantings of plums and grapes. Mr. Hall is a young man who has been out of the state Agricultural College only a few years and who bought the farm as an investment, believing it was in the right condition to produce an income at once. Before buying the farm he worked there some time as a hired man, thus learning the conditions thoroughly.

A Simple Method of Keeping Apples.

In preparing apples for winter keeping, select the varieties desired, being careful to store only those with known keeping qualities, such as the Baldwins, Rhode Island Greenings, Spitzenburgs, Northern Spys, and other standard winter varieties. When a careful selection of fruit has been made, collect a quantity of good, dry leaves and place a layer of these leaves in the bottom of a suitable basket. The fruit is then put in on top of the leaves, each apple being well wrapped with paper. When the basket is full, place another layer of leaves on top, covering the whole with paper.

Great care should be exercised in handling the fruit, for if it is even slightly bruised, it will not keep well. After the baskets are properly filled and covered, place them in the attic or some other place in the house, where it is perfectly dry and where there is no danger from frost.

Apples packed and stored in this manner will keep for a long time and the time involved in preparing them for storage will prove to be well spent, says N. Y. State Farmer.

If it is desired to store apples in the bin in the cellar, put a thick layer of leaves in the bottom of the bin, and as the fruit is put in sprinkle leaves all through it. Add another good thick layer of leaves on top. Fruit packed in this manner will not keep as well or as long as when packed in baskets, but this plan is practical on a small scale, at least.

Fruit stored in these ways will bring high prices in late winter and early spring.—V. S. Estabrook, Ashtabula, Ohio.

Quinces for Market.

The trunk and branches of the quince are perfectly hardy, even to the ends of the twigs. It is only the root which is very porous, that is, tender. Quince roots naturally run near the surface, and their porosity exposes them to special danger when frozen, as they probably will be if the freezing of the soil extends very deeply.

There is some power in the quince root to resist frost, so that, even where the roots are frozen, the tree is not always killed. But if many of the roots freeze, some of the quince top will die, and its productiveness for a year or two will be greatly impaired.

The quince tree likes a moist soil, partly because this is not so likely as a high and dry soil to freeze deeply. For the same reason, even in localities least favorable to it, the quince will succeed when planted in some sheltered place beside the fence or near a building, where deep snow will cover its roots and reach almost to its branches during the winter.

Such places are generally rich, the same wind that piles up the snow also carrying with it some of the loose surface soil that is always the most fertile. If quince trees had never been planted except in such conditions, the fruit would not have the bad repute it now has for being tender.

Farmers in the City—To-day, the descendants of the Argonauts are herded in cities, working for masters, competing, struggling, striking, going under, while the land which their fathers won becomes the property of a horde of Asiatics and southern Europeans.

"But if this goes on, what is left for us?" asked Saxon.

"What is happening? Those of us who haven't anything rot in the cities. Those of us who have land, sell it and go to the cities. Some become larger capitalists; some go into the professions; the rest spend their money and start rotting when it's gone, and if it lasts their lifetime their children do the rotting for them."—N. Y. Times.

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SUGAR 3c

25 pounds best granulated cane for 75¢—if added to your order for \$10 worth of other groceries. Buy at wholesale direct from headquarters—save one-third. Send for Wholesale Price List. Satisfaction or money back. Prompt shipment.

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Begin saving now on your biggest expense. Our new Cut Price Grocery List shows how. Many starting this month. Also 10,000 bushels in stock for men, women and children, raising, raising, raising. Take advantage of this great grocery offer. Don't delay. Write now.

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Send us the \$1.20 and the Camera and complete outfit is yours. Address GLOBE CO., Dept. 724, Greenville, Pa.

Macatawa Challenge Offer

I will pay \$1000 for two dozen plants of a better Blackberry than the Macatawa, judged on the following points:

1—Size of berries; 2—Hardiness of plant; 3—Habit of growth of plant and fruit; 4—Yield or average cropping; 5—Flavor of berries; 6—Freedom of berries from core or seeds; 7—Ease in picking; 8—Shipping quality of berries.

Send for circular now. Address ALFRED MITTING, HOLLAND, MICHIGAN

Strawberry Plants that Grow

Fall Bearing sorts are the latest thought in Strawberries, and we have the best varieties. "Princess" the most productive and bearing the first year. "Superb," the largest of all the fall bearers. Our 1914 Free Catalog describes these, also a full line of June varieties, with Raspberry, Blackberry, Currant and Grapes Plants.

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Delaware a Fruit Garden,

easily tilled; productive soil, cheap lands, fine homes, close to best markets. Dairying and general farming profitable. For farm opportunities address

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Buy lever action rifle free shipping 20 ft. long 20 ft. wide or 20 ft. Art and Religious Pictures.

Order your choice. GATES MFG. CO., Dept. 870 CHICAGO

PARKER'S HAIR BALSAM

Cleanses and beautifies the hair. Never fails to restore gray hair to its youthful color. Prevents hair falling.

50c and \$1.00 at Drugists.

VIOLIN FREE

This is a fine, handsome, clear-toned, good sized Violin of highly polished, beautiful wood, with ebony-finished pegs, finger board and tail piece, one silver string, three gut strings, long bow of white horse-hair, box of resin and

Free Self Instruction Book. Send us your name and address for 24 packages of Balsam to sell at 10 cents a package. When sold return our \$2.40 and we will send you this beautiful violin and fit just exactly as represented.

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Indiana Horticultural Meeting.

The only apple talk on the program was made by C. B. Durham, assistant secretary of the Indiana apple show. In discussing "Fruit growing in Indiana and prospects for the 1913 apple show," Mr. Durham made a comparison between the opportunities in Indiana and the northwest, reports The Farmers' Guide. "I have seen all the apple sections of this state," he said, "and every fruit valley in the northwest, and my honest opinion is that the Indiana grower using western methods has a far greater opportunity for consistent profit than the western apple specialist." Among advantages assigned to Indiana he named: Sufficient regularity of yield under good care to secure high average profits; an always greater demand than supply for good home grown fruit; an impossibility of over-production, such as the northwest experienced last year; excellently flavored apples; unsurpassed markets, indicated by the fact that three-fourths of the population of the United States dwell within the first four parcel post zones from Indianapolis; reasonably valued land with high adaptability to fruit production; increasing reputation of Indiana fruit. Apple show prospects, he said, were never better. The crop is better than last year, and with a natural growth the show should be much larger than last year.

"Grape Growing" was ably discussed by M. H. Pugsley, owner of a successful 40-acre vineyard at Paw Paw, Mich. Mr. Pugsley pointed out that the famous grape growing parts of the world were confined within a 500-mile wide belt of about the same latitude about the globe. Commercial aspects of grape growing such as selection of a site, care of vines, packing and marketing were described. Under present Indians conditions large vineyards were not considered feasible. The Indiana farmer, however, who wishes to grow grapes for home use and local markets would find his efforts satisfactory. Concords and Delawares for such men are advisable varieties. In rich soil too much wood is a danger. This can be controlled by allowing six instead of the usual four arms to develop and by a heavy pruning of the greater number of arms. A combination spray of proven efficiency against the curculio, grape berry moth, black rot and many other troubles is made by using 2 pounds arsenate of lead, one-half pound whale oil soap to 50 gallons of a 3-5 Bordeaux mixture (3 pounds blue stone, 5 pounds hydrated lime).

A landscape gardener of Indianapolis, C. M. Dunn, in his address on "Beautifying the Home Grounds," said that the first and most essential thing to make home grounds attractive was to clean up all piles of brush and trash, and to cut all weeds. This is not only necessary from the esthetic standpoint but is highly desirable as a sanitary measure. A few shrubs should be planted to screen corners of buildings and to make picture-like effects. Any natural beauties should be preserved. Native shrubs are best for home planting—these, however, should not be taken wild from the woods on account of the fact that they are apt to be infested with insects. Buy the shrubs from a nearby and reliable nurseryman. Plant trees for shade, but leave plenty of open space in the lawn.

"On time" was a phase which Geo. T. Blue, proprietor of Fairview Fruit Farm, near Indianapolis, used often in his talk on small fruits. The man who gets the best prices for small fruits must get his spring cultivation done in time. His spraying, and above all the presentation of his fruit to carefully selected markets must be on time. "Berries should be hauled as carefully as milk," said Mr. Blue, "for the fruit is almost as perishable. Keeping quality of fruit after picking may be controlled to a great extent by careful handling during the picking."

That marketing is the biggest half of fruit growing was ably pointed out by A. M. Fox. "The biggest secret of successful marketing," said Mr. Fox, "is proper preparation of fruit for the market. This means honest grading and attractive packing in appropriate containers."

Here is Something Worth Reading.

The editor of Green's Fruit Grower has often been complimented upon the selections which he has re-published, being mostly the sayings of wise men. The best thing that I have ever published is given below. No such words as these were ever before spoken or published. While these words were spoken many years ago they are as helpful today as when spoken or even more so. It is not necessary for me to give the name of the man who spoke these words. He has long been my Teacher.

C. A. Green.

The arrangement of these words is by Matthew Arnold, one of the great literary lights of the world.

The time is fulfilled and the kingdom of God is at hand! change the inner man and believe the good news!

He that believeth hath eternal life.

He that heareth my word, and believeth him that sent me, hath eternal life and cometh not into judgment, but hath passed from death to life. Verily, verily, I say unto you, the hour cometh and now is, when the dead shall hear the voice of the Son of God, and they that hear shall live.

I have come forth from God, and am here, for I have not come of myself, but he sent me. No man can come unto me except the Father that sent me draw him; and I will raise him up in the last day. He that is of God heareth the words of God; my doctrine is not mine, but his that sent me. He that receiveth me receiveth him that sent me.

And why call ye Lord, Lord—and do not what I say? If ye know these things, happy are ye if ye do them. Cleanse that which is within; the evil thoughts from within, from the heart, they defile the man. And why seest thou the mote that is in thy brother's eye, but perceivest not the beam that is in thine own eye? Take heed to yourselves against insincerity; God knoweth your hearts; blessed are the pure in heart, for they shall see God!

Come unto me, all that labor and are heavy burdened, and I will give you rest. Take my yoke upon you, and learn of me that I am mild and lowly of heart, and ye shall find rest unto your souls. For my yoke is kindly, and my burden light.

I am the bread of life; he that cometh to me shall never hunger and he that believeth in me shall never thirst. I am the living bread; as the living Father sent me, and I live by the Father, so he that eateth me, even he shall live by me. It is the spirit that maketh live, the flesh profiteth nothing, the words which I have said unto you, they are spirit and they are life. If a man keep my word, he shall never see death. My sheep hear my voice, and I know them, and they follow me, and I give unto them eternal life.

If a man serve me, let him follow me; and where I am, there also shall my servant be. Whosoever doth not carry his cross and come after me cannot be my disciple. If any man will come after me, let him renounce himself, and take up his cross daily, and follow me. For whosoever will save his life shall lose it; but whosoever shall lose his life for my sake, and the sake of the good news, the same shall save it. For what is a man profited, if he gain the whole world, but lose himself, be muleted of himself? Therefore doth my Father love me, because I lay down my life that I may take it again. A new commandment I give unto you, that ye love one another. The Son of Man came not to be served, but to serve, and to give his life a ransom for many.

I am the resurrection and the life; he that believeth in me, though he die, shall live; and he that liveth and believeth in me shall never die. I am come that ye might have life, and that ye might have it more abundantly. I cast out devils and I do cures today and tomorrow, and the third day I shall be perfected. Yet a little while and the world seeth me no more; but ye see me, because I live and ye shall live. If ye keep my commandments ye shall abide in my love, like as I have kept my Father's commandments and abide in his love. He that loveth me shall be loved by my Father and I will love him and will manifest myself to him. If a man love me, he will keep my word, and my Father will love him, and we will come unto him, and make our abode with him.

I am the good shepherd: the good shepherd lays down his life for the sheep. And other sheep I have which are not of this fold; them also must I bring, and they shall be one flock, one shepherd. Fear not, little flock, for it is your Father's pleasure to give you the kingdom.

My kingdom is not of this world; the kingdom of God cometh not with observation; behold the kingdom of God is within you. Whereunto shall I liken the kingdom of God? It is like a grain of mustard seed, which a man took and cast into the garden, and it grew, and waxed a great tree, and the fowls of the air lodged in the branches of it. It is like leaven, which a woman took and hid in three measures of meal, till the whole was leavened. So is the kingdom of God as a man may cast seed in the ground, and may go to bed and get up night and day, and the seed shoots and extends and he knoweth not how.

And this good news of the kingdom shall be preached to the whole world, for a witness to all nations; and then shall the end come.

Nothing pays on the farm better than kindness, and the lack of it is a constant, though invisible, drain on the pocketbook. The horse will not do his work so well, the cow cannot produce her best results nor the hog fatten if every time a human being shows himself the poor, dumb brute must figure on how best to dodge a biff in the head.

November, 1913.
I have been taking your paper for about 30 years. It is all right.—E. M. Harbough, Mechanicsburg, Ill.

The Truth About Florida

There are all kinds of lands in Florida—good, bad and indifferent. This statement is just as true of Illinois land. It is true of Iowa. It is true of California or any state, north, east, south or west.

Some regions in Florida are worthless for agricultural purposes. Other tracts have and are today returning their owners a rich income every year. These good tracts were bought by people of judgment—people who kept their eyes open and saw what they were buying. People who have been "stung" in their land purchases in Florida and other states bought carelessly. They did not investigate. They knew little of the soil, climate and rainfall. They did not ask, "Has anybody ever made money growing vegetables and oranges here?" They took the word of the land salesman. Sometimes they lost their money. Instead of blaming the land company or their own careless judgment, they criticized the entire state.

The time has come for a change in Florida land selling—in all land selling. We have begun that change.

The Wauchula Development Co. was organized after a 28,000 mile search for land that could be sold under a guarantee. The tract is different from ordinary Florida land. It is known as Combination Soil. Now this Wauchula Combination Soil is equally well adapted to vegetables and citrus fruit.

It offers peculiar advantages. Our settlers come here with a little money.

They set out their grape fruit and orange trees. Then instead of wasting money on living expenses while waiting for these to mature, they earn money by growing vegetables. They plant vegetables between the tree rows. The warm, pleasant climate, abundant rainfall, good drainage, produce three crops a year—sometimes four.

Settlers in the Wauchula, Florida, District particularly pay their way from the start. Once you're established, vegetables earn a good comfortable living right along. And all the time the grape fruit and oranges trees are getting bigger.

When they begin to bear the real profits come in. Orange growers make \$3,000 to \$8,000 a year. Some make \$10,000 and more. We don't emphasize these high incomes especially. Because there are not so many of them. But \$3,000 a year, \$5,000 and \$8,000 are common.

\$500,000 bank deposits in three small towns within a radius of five miles prove the grove owner's prosperity. Steve Griffin made over \$6,000 from 15 acres of grape fruit and orange trees this last year—only part of his grove. W. L. Warren made over \$2,000 the first year he was down here. Some men here don't feel that they are doing well unless they make better than \$1,000 on every acre every year.

Wauchula, Florida District

Combination Soil Proved by Crops —Fortunes Built from Small Investments

Guarantee by Bankers

The Wauchula Development Company is a home company of bankers, long-established, with financial responsibility to carry out every promise. Their records will stand the most vigorous investigation. This is their guarantee to you:

"Start payments on your land as soon as possible, to get the best choice of location. Come down and see your plot any time within a year. If you're not satisfied, we return your money with six per cent for the time we've had it."

We give you the facts about Florida. We tell you the truth about the district around Wauchula. But we don't expect you to accept our statements blindly.

Come down here and look things over. You'll find here every opportunity we promise and more. Start payments on your land now. The payments are small. Anytime within a year you can come down here and inspect your land. If it isn't as represented, we'll give you back your money with six per cent interest. (See Bankers' Guarantee).

Pick oranges from the trees. Talk to the grove owners. Let them tell you what they make. Note the character of the soil. See how it grows vegetables as well as grape fruit and oranges.

Question the new settlers. See what they have done in the few months they've been there.

Walk around Wauchula. Look at its pleasant homes, its schools, its churches, lodges, stores, banks. Observe the new building going on. Wauchula has grown from 1,500 to 2,000 in the last year. Visit Vandolah, the new town west of Wauchula. See the activity of this region.

Come down during shipping season if you can. See what splendid service the railroad gives. Study the cash prices paid. Figure out how much you could make.

Talk to natives and newcomers about climate and water supply. Ask about their health down here. Learn what fishing and hunting there is for vacation time.

Live Well, from the Start—Grow Soon to An Income of \$3,000 to \$8,000

Write for Facts

You don't have to wait for prosperity at Wauchula. You begin to make it from the start. And year by year your income is bigger.

Don't set a limit on your future. Come to Wauchula where you can keep on making more money steadily. Ten acres is enough to begin on. Buy more land as you can use it. Every acre means more money added to your income.

Get the facts. Get the story of the Wauchula District as the grove owners tell it. Study their recommendations. Read the figures of earnings. Then go over our offer carefully—the moderate earnings, the easy terms, the guarantee by bankers.

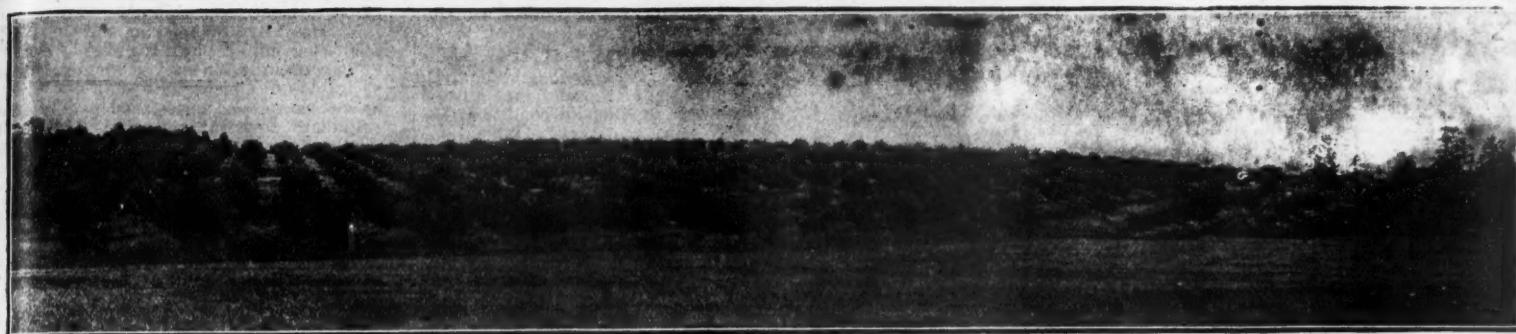
Write today for complete information. Mail a letter or a postal or the coupon. Address

Wauchula Development Co.

Box 160

Wauchula, Florida

Wauchula Development Co., Box 160, Wauchula, Fla.
Please send me actual facts regarding your combination soil and bankers' guarantee, letters from
settlers, fruit land, etc.
Name: _____
St. No. or
Hrs. Route: _____
Town: _____
State: _____



A ten year old orchard on the farm of Maurice Cayford, Somerset county, Maine, that last year yielded 6,000 barrels of the Ben Davis apples.

An Orchard as a Commercial Enterprise.

Written for Green's Fruit Grower by

John E. Taylor, Maine.

Making an orchard bring practical results is one of the aims of John C. Griffin, a well-known insurance agent of Somerset County. He has about 1200 apple trees, the oldest of them being about six years, that he is raising as a commercial enterprise more than an experiment, and the results so far give entire satisfaction, and the orchard promises to be equivalent to a big insurance policy of the endowment type within a few years.

Though Mr. Griffin's orchard is yet young, its little history has many points of instructive value and interest. It was six years ago that Mr. Griffin discovered the land for his orchard. It covers about 30 acres and up until the time that he came into possession of it it had been used year after year to get hay from, but for many years nothing had been done to improve the land and it had become run-out. The soil is a gravelly loam and has been pronounced by the State Horticulturist as being ideal for an orchard.

In plowing the land for his new venture he used the same method as if plowing for the common crops, going about six inches deep. He harrowed it thoroughly, going over the ground several times, making the dirt mellow and as light as possible. He employed an engineer to lay out the ground for the trees, planting them 30 feet apart, so that rows run even each way.

In every move that he made in this work he planned for results. The first fall he plowed 15 acres and the following spring sowed 200 bushels of oats and a good crop

trees beans, potatoes and sowing buckwheat. These crops paid for the labor involved, leaving only the trees and part of the fertilizer as net cost. More trees were planted the next year so that now the orchard contains about 400 Ben Davis, 400 Ganos, 250 Wealthys, 30 McIntoshs and a few earlier varieties for home use, so that he has now about 1200 trees.

Whether the demand was greater than the supply in apple trees during the time that Mr. Griffin started to set out his orchard and the last trees that he bought is not known, but the first year he got his trees for 25 cents apiece; the next year 30 cents apiece, and the next year 38 cents apiece. They have now jumped to 50 cents apiece in lots of 100 or more.

Most orchardists in setting out their first trees make preparations for many trees to die and so did Mr. Griffin, but his loss was remarkably small. His loss to Ben Davis and Gano was not over 5 per cent. and not over 2 per cent. of the Wealthys.

Mr. Griffin believes that the soil in the orchard should be kept stirred and the ground should always be kept cultivated. After the first year or so he has used as crops oats and wheat. Up to that time he had planted potatoes, corn and beans. He uses the former crops now as he gets the benefit of the products for his hens and stock, and after threshing the grains he hauls the straw back into the orchard, using it as mulch. He, in setting out his orchard and preparing the ground, did not use any dressing or fertilizer but each year now as he sows his grains he uses the ordinary amount of commercial fertilizer. This year he had five acres of oats and two acres of wheat. He harvested 200 bushels of oats and a good crop

of wheat. He plans to plow about seven acres each year, getting through the orchard in about four years. When he sows his grain he seeds down the piece and the next year harvests the hay.

One derives a great deal of pleasure from the growing child but the real pride comes at the mature age, and so with Mr. Griffin's orchard. This orchard has furnished a lot of gratification and pleasure, but this year he had the satisfaction of realizing that practically every tree was thrifty, that his methods used were practical, that results to date were all that could be desired and then to have that pleasure of seeing a part of this orchard come into bloom and ready to furnish an income. Early this spring the trees were well-blossomed and the fruit was perfect in shape, flavor and size, this fall.

The methods of Mr. Griffin have been original in a great many respects in the care of his orchard. Up to the present time he has never sprayed his orchard, but in the place of this he has had his man go among his trees and pick all the nests of insects. This has been done often enough to keep the trees from being infested. He believes that the trees have done better than they would have if sprayed and the cost has been less. He is a firm believer in pruning an orchard and not to allow the tree to use up its energy in feeding unnecessary branches and not allowing too much to go into top and branches. He prunes to get the shape as well as to cut out unnecessary limbs. He plans to prune once a year and next year he will spray the orchard on account of the brown tail moths that are now prevalent here.

Protecting the trees from mice has been brought about satisfactorily with Mr.

Griffin. He uses a wire netting not unlike a fine wire fence that is circled about the tree two feet high. This has been made so as to provide for future growth of the tree and has proved that it protects, for in only one instance has he had a tree girdled with this netting around it. This was when the snow came up above the wire and the mouse gnawed in over the top. Mr. Griffin estimates that the cost of this wiring is 15 cents per tree, but it is good for many years.

A tree is worth a dollar when it is set out, according to Mr. Griffin, and enhances in value a dollar each year. He reckons that his trees will have reached fair bearing age when twelve years old, but from now on his trees will be a paying proposition and he feels satisfied that this orchard is one of the best investments he has made in his lifetime.

A few of the many reasons why we should plant trees. First, it beautifies our homes, reduces the cost of our living in furnishing us with fruit, and protects us from the hard winds, making our lives more healthy and pleasanter than they otherwise could be. I am convinced of the fact that if there had never been a tree planted on the Plains there would not be more than half as many people, and land would not be worth more than half its present value.

Enterprising.

Visitor—"Can I see that motorist who was brought here an hour ago?"

Nurse—"He hasn't come to his senses yet."

Visitor—"Oh, that's all right. I only want to sell him another car."—Judge.



insure heavier yields of better crops which bring higher prices to fruit growers and farmers. Thirty years' experience are back of all Deming Spray Pumps which are built substantially along correct lines. They are valued by leading horticulturists for their strong pressure, efficient work and lasting service. The strongest feature of every Deming Sprayer is the easy accessibility of all working parts. The simple construction of our pumps makes them dependable, easy to operate and durable. Watch next month's number of G. F. G. for announcement of a *Great New Power Spraying Outfit*.

Here are Four Deming Leaders for Progressive Fruit Growers

"Perfect Success" Bucket Sprayer

Indispensable for garden, greenhouse or small orchard. A great favorite since it is easily attached to any bucket. Does good work quickly and is built for hard wear. Read all about it in our catalog.

"The Century" Barrel Sprayer

Is conceded by all experts to be the best all-round barrel sprayer. At the national Horticultural contest it took first prize over six competitors. By simply removing 4 bolts, the valves and plunger are accessible. Of best material and workmanship throughout. Illustrated below. See it at your dealer's.



"Universal Success" Sprayer

Is proving a most useful outfit for garden, farm, factory and home. It is adapted to a variety of uses, such as spraying, whitewashing, buggy and window washing, for oiling floors, to extinguish fires, etc. A winner.

The "Samson" Double Acting Sprayer

For large orchards and where heavy pressure is required we unhesitatingly recommend the "Samson." Well balanced mechanically, powerful and efficient. The "Samson" sprayer will "fill the bill" admirably for large fruit growers wanting the strongest and best hand sprayer. See illustration below.



Use the Famous Deming Nozzles and "Deco" Hose

They lead under all conditions in all sections of the country. Realizing the importance of this "Business end" of every spraying outfit, we have paid special attention to perfecting it. Deming Nozzles fit every spraying outfit, though for best results use the ideal combination, Deming Sprayers with Deming Nozzles. Besides the famous Deming Trio—Bordeau, Simplex and Vermorel Nozzles,—there are 6 other styles for different purposes. All are tested and guaranteed to do thorough work.

Write for Free, Illustrated Spraying Guide To-day

list a most complete spraying guide. It tells when and how to spray in garden, orchard and field. Catalog describes over twenty styles of Deming Spray Pumps and shows how they are successfully used by many prominent fruitmen and gardeners. Ask for your copy and name of nearest Deming Dealer To-day.

The Deming Co., Hand & Power Pumps for all Purposes

To help make your spraying effective we pub-

FRUIT TREES

AT
HALF AGENTS' PRICES.

We have no agents—we sell direct to you. Our prices one-half agents' prices. Why? Because we save you the agents' profits. That's dollars in your pocket, Mr. Fruit Grower.

All our trees are absolutely the finest stock. If any tree is not true to name and healthy, we replace it.

Peach, Pear, Plum, Cherry, Quince, Shade and Ornamental Trees, shrubs, berry bushes and plants—all at money saving prices.

We pay freight on all orders of \$7.50 or over.

Our catalog is a useful one, containing valuable information—how to plant and care for all kinds of fruit trees. It will pay you to get it—absolutely free. Write today.

W.M. P. RUFERT & SON,
Box 70, Seneca, N. Y.

BARGAINS IN SEEDS

Hundreds of special offers in Surplus stock of seeds and plants at bargain prices. Don't buy until you have seen our beautiful new catalog and bargain list, mailed free if you mention this paper.

IOWA SEED CO., Dept. 25, Des Moines, Iowa



for Crazy Quilts and all kinds of fancy work. Large pieces; bright colors. Best assortment ever offered. Big pkgs. 10c.; 3 for 25c.

Satisfaction guaranteed or your money back.

Franklyn Novelty Co., 5130 York St., Jersey City, N.J.

PERFECT FRUIT IS ASSURED

If you Spray with

SWIFT'S
ARSENATE OF LEAD

Highest Quality—the Pioneer Brand.

Not always lowest in price but cheapest in the end;—used the world over.

FOR SALE BY LEADING DEALERS EVERYWHERE

MERRIMAC CHEMICAL CO.

Send for Apple Book.

32 Broad Street, Boston, Mass.

SEASONABLE SUPPLIES

The O. K. Cog Gear Barrel Spray Pump

The special features are the cog gear, malleable iron adjustable base for end of barrel. It is built to withstand the destructive acids, lime and other spray materials which cause the ordinary sprayers to fail in the fight. It has a patent brass cylinder plunger and ball valves, making it almost indestructible. The handle is wrought steel with cog gear, to enable the operator to maintain a pressure of 200 lbs. or more, if necessary, with very little effort. It can be attached in a few minutes to any barrel. The O. K. Spray Pump is one of the most formidable weapons in the warfare against all insects and pests of every kind.

Price, as illustrated, without barrel, including two 15-ft. lengths of hose, two stop cocks and two nozzles, complete, ready to use..... \$17.00

8 ft. Extension Pipes, 60 cents each.

Green's Cog Gear Barrel Spray Pump No. 18
For Small Orchards

It has bronze ball valves and brass seats; the plunger is brass fitted with hemp packing. Will handle hot, cold or any caustic mixture. The cylinder and discharge pipe are all brass. The air chamber is 32 inches in length, enabling the pump to throw a uniform, constant and elastic spray. It has good leverage, is very powerful and easily operated. The Mechanical Agitator stirs the solution from the bottom, making it impossible for this pump to clog under any circumstances. This pump can be used on any barrel.

The best pump on earth for the price.

Price as illustrated, including mechanical agitator, 15 ft. hose and nozzle, ready for use \$8.80

GREEN'S GRAFTING TOOL



A complete tool for grafting, made in one piece of forged steel. Price, Postpaid, 75c.

GRAFTING WAX

1 lb. Postpaid, 45c. $\frac{1}{2}$ lb. Postpaid, 30c.

NOTICE—We handle a complete line of Power Sprayers and Spray Solutions. Send at once for circular and get a complete spray calendar free.

Address GREEN'S NURSERY CO., Service Dept., ROCHESTER, N. Y.

Lord Ullin's Daughter.

Published by Request.
A Chieftain, to the Highlands bound,
Cries, "Boatman do not tarry!
And I'll give them a silver pound
To row us o'er the ferry."

"Now who be ye, will cross Lochgyle
This dark and stormy water?"
"O, I'm the chief of Ulva's isle
And this, Lord Ullin's daughter."

"And fast before her father's men
Three days we've fed together;
For should they find us in the glen,
My blood would stain the heather."

"Out spoke the hardy highland wight
"I'll go my chief—I'm ready.
It is not for your silver bright,
But for your winsome lady."

"By this the wind grew loud apace;
The water wraith was shrieking;
And in the scowl of heaven each face
Grew dark as they were speaking."

"But still as wilder blew the wind,
And as the night grew darker,
Down the glen rode armed men—
Their trampling sounded nearer."

"Haste thee, haste!" the lady cried;
"Though tempests round us gather;
I'll meet the raging of the skies,
But not an angry father."

"The boat has left a stormy land,
A stormy sea before her—
When, Oh! too strong for human hand,
The tempest gathered o'er her."

"And still they rowed amidst the roar
Of water fast prevailing—
Lord Ullin reached that fatal shore;
His wraith was changed to wailing."

"For sore dismay through storm and shade
His child he did discover,
One lovely hand she stretched for aid
And one was round her lover."

"Come back! come back!" he cried in grief,
"Across this stormy water;
And I'll forgive your Highland chief,
My daughter!—Oh, my daughter!"

Thomas Campbell.

Selling Apples Direct to the Consumer.

In a letter from J. H. Hale, Conn., of recent date, he says that he harvested a glorious apple crop and that all orchard trees were in splendid condition.

Mr. Hale gets out a few attractive circulars which he uses for selling his apples direct to the consumer. We are confident that a great many of our readers who live near large cities could reach the consumer direct by making a proper effort.

Mr. Hale's argument in favor of universal apple eating is so clever that we have decided to reproduce some of it here:

"Hale's Baldwin Apples of Quality with the Flavor of Old New England.

"Beauty and food value combined. Each apple sealed by nature in germ-proof covering, as beautiful as Jack roses. No pure-food laws required to guarantee Hale's apples. They are nature's high-grade product, unadulterated, direct from the orchard to the consumer.

"The substantial food value of apples for culinary purposes has long been recognized in practically every home in the land; and a goodly number of people, aside from the small boy, have always been consumers of apples in their natural state.

"The old adage: 'An apple a day keeps the doctor away,' is well supplemented by the recent statement of a lady of 76, with the bloom of youth on her cheeks, and today looking not over 50, who attributes it all to her habit of eating from two to six apples daily. It is also a well-recognized fact that the appetite for strong drink can be largely taken away by the daily consumption of apples.

"For centuries, insect and fungus diseases destroyed the exterior appearance and beauty of most apples, and it is only within very recent years that science coming to the aid of horticulture has

from any one tree, while the old plan was to gather all at one picking and ship ripe, half-ripe and green all together.

"In packing for market, we grade extra selected specimens into uniform sizes; paper wrap each apple, and pack in the standard western apple box. Apples 3 inches or more in diameter are graded as AA, and those 2½ to 3 inches as A.

"We also pack in barrels, apples unwrapped, a standard A grade and also a B grade which, while sound, long-keeping fruit of equally good quality, have slight blemishes that prevent them from going into the A grade."—The Southern Fruit Grower.

Color Barred Fruit.

There was a time when prejudice was carried so far in Holland that the sale of oranges and carrots was forbidden, says Argonaut. Orange was the color of the stadholder's family, and when the democratic feeling against this family was at its height the fruit which gave the color to nature, and even the harmless carrot, which more or less resembles it in hue, were placed under the ban. Of course, there were persons of moderate temper who thought that this was going too far.

Effects of Gambling.

An habitual gambler is only one remove from a mentally diseased person, says Literary Digest. The chief allure and the chief excitement of gambling is found in the rapid alternation of opposing emotions, and that without participation of the intellect. Thus habitual gaming unfits its votaries for all concentrated mental effort, and in its most exaggerated form it is an affair rather of pathology than of morals. Gaming even tends to alter the facial expression—to produce what is called the "gambler's face," characterized by a peculiar hardness



Barreled apples awaiting shipment by canal at Medina, near Rochester, N. Y.

taught the way to destroy these pests and allow the apple to come to its own beauty of appearance, as well as food value.

"The far west was first to grasp and fully develop new methods, and the beauty of their fruit has been such an attractive feature of our fruit stands in recent years as to stimulate the daily consumption of apples far beyond that in former years, and to a large degree displace oranges, bananas and other fruits for dessert purposes.

"Beauty of fruit and style of packing have been the main factors in placing apples in the lead of all other fruits in recent years, and now that we of the East are growing as beautiful fruit as any, and of highest quality, such as can only come from the rocky hills of old New England, the apple has attained an added value that places it in the very front rank of wholesome pure food products.

"The J. H. Hale orchards, covering over 300 acres at Glastonbury and Seymour, Connecticut, are located on high rocky hills, especially selected where soil conditions, air, and frost drainage, give ideal conditions for the natural production of high-grade fruit. Here were planted varieties of apples known to find their most congenial soil and climate east of the Hudson, and by the aid of best up-to-date methods of culture, feeding, pruning, and spraying, wonderful orchards have been created that are now producing fruit not to be surpassed in beauty or quality by that of any other orchards in America.

"Everything that science and skill can do to aid nature in perfecting apples in the Hale orchards has been done, even to the thinning of the half-grown fruit from the trees in mid-summer so that one specimen should not touch another and each be free to develop its individuality and full perfection.

"In harvesting these scientifically-grown apples only matured specimens are taken from the tree at each picking, and it is a month or more before all are harvested

which is easily recognizable. All this we learn from an article contributed to The Medical Record (New York) by Dr. J. Leonard Corning, of New York. He sketches rapidly the world-wide character of the craze, and notes that lawmakers have tried to stamp out the evil by stringent legislation, but adds that

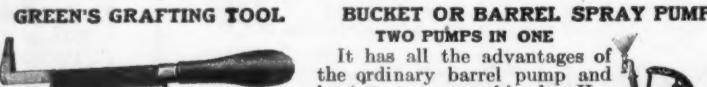
"the fact that these laws have been powerless to stamp out the practice is the best proof of how firmly the propensity is rooted in the instinctive life of the race."

Tools Exposed.

It is astonishing, as one rides through a prosperous farming community, to see the evidences of recklessness in this matter. There are several ways to shorten the life and usefulness of farm implements. The quickest way to spoil them is the one that is most common; leaving them out in the weather. The wife might as well set the sewing machine out in the rain until she needs it, as the man to leave his binder in the field or barnyard through the winter, and then expect it to start up at harvest time and go smoothly through his harvest, says The Farmer's Guide.

I have known two binders that have served eight and twelve years without giving trouble enough to mention. The one that has run the eight years was apparently in as good condition to be stored away at the end of last harvest as it was when new. But this binder is never allowed to be caught in a rain, nor to be unnecessarily exposed to the weather. It is not even allowed to stand over night in harvest without the binder cover spread over it to turn rain and dew.

I know of another binder that was never sheltered, but after harvest was pulled to the side of the barn for the winter. This man always had trouble in harvest, and wore out two machines while one ought to do more and better work. So with all the other tools.



BUCKET OR BARREL SPRAY PUMP

TWO PUMPS IN ONE

It has all the advantages of the ordinary barrel pump and bucket pump combined. Has one-half more air chamber than any other make of bucket pump. Is made of brass with ball valves; handles and foot rest are malleable iron.

When used as a barrel pump, detach the foot rest and attach pump to top of barrel.

Price No. 24 complete, ready to use, with agitator, 5 feet of 3-ply hose and graduating Vermorel, fine or coarse spray, and solid stream nozzle.... \$4.45
With 4' extension pipe for higher trees..... \$4.75



PATENT JET AGITATOR

STRAINER

PATENT

JET

AGITATOR

PIPE

VALVE

HORN

VALVE

VALVE

VALVE

A complete tool for grafting, made in one piece of forged steel. Price, Postpaid, 75c.

GRAFTING WAX

1 lb. Postpaid, 45c. $\frac{1}{2}$ lb. Postpaid, 30c.

NOTICE—We handle a complete line of Power Sprayers and Spray Solutions. Send at once for circular and get a complete spray calendar free.

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Colder</

CLASSIFIED ADVERTISEMENTS

No display advertising will be placed in this department and no type larger than 6-point. The first three words only to be printed in capital letters. Each abbreviation and number will count as one word. Rate 10 cents per word for each insertion. No advertisement inserted for less than \$1 per issue. We cannot afford to do any book-keeping at this rate. Cash must accompany every order. Orders must reach us not later than the 15th of the month previous to the month in which the advertisement is to appear.

Terms: CASH WITH ORDER.

Green's Fruit Grower Co., Rochester, N. Y.

HELP WANTED

WANTED—A woman who has a little spare time and needs to earn money. Write to the MacMaster Specialty Co., Syracuse, N. Y.

WANTED—Salesman, to sell apple barrels, boxes, baskets and all orchard supplies. Address, P. McKenna's Sons, Honesdale, Pa.

AGENTS—Novelty knives and razors are lightning sellers. 100% profit. Exclusive territory. Goods guaranteed. Novelty Cutlery Co., 154 Bar St., Canton, O.

REPORT LOCAL INFORMATION, Names, etc. to us. No canvassing. Spare time. Exceptional proposition. Enclose stamp. National Information Sales Company, Dept. H.B.K., Cincinnati, O.

MEN AND WOMEN OVER 18, Get Government Jobs. \$65 to \$150 month. Parcel Post and Income Tax mean hundreds of Postoffice, Railway Mail and Internal Revenue appointments. Write immediately for free list of positions now available. Franklin Institute, Dept. B-147, Rochester, N. Y.

MALE HELP WANTED

LOCAL REPRESENTATIVE WANTED. Splendid income assured right man to act as our representative after learning our business thoroughly by mail. Former experience unnecessary. All we require is honesty, ability, ambition and willingness to learn a lucrative business. No soliciting or traveling. All or spare time only. This is an exceptional opportunity for a man in your section to get into a big paying business without capital and become independent for life. Write at once for full particulars. National Co-Operative Realty Company, L-638, Marden Building, Washington, D. C.

FARMS WANTED

Wanted to hear from owner who has good farm for sale. Send description and price. Northwestern Business Agency, Minneapolis, Minn.

WANTED—Improved farms and wild lands. Best system for quick results. Full particulars and magazine free. Don't pay big commissions. Western Sales Agency, Minneapolis, Minn.

FARMS WANTED. We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 32 Palace Bldg., Minneapolis, Minn.

CASH FOR YOUR FARM. I bring buyers and sellers together. If you want to buy, sell or exchange any kind of property or business anywhere write me. Established 1881. Frank P. Cleveland, 2855 Adams Express Building, Chicago, Illinois.

COLD STORAGE

COLD STORAGE is the best way of keeping fruit—everybody knows that. Investigate the Cooper Brine System, using ice and salt for cooling. Superior results over common storage and also over refrigerating machine; reasonable first cost; absolute safety against breakdown. Madison Cooper Co., 110 Court St., Calcium, N. Y.

FOR SALE

SCOTCH COLLIES—Write for prices. Katherine Tack, Rainbow, N. Y.

SEED PAPER SHELL PECANS FOR SALE. F. C. Wilson, Montgomery, Ala.

WELL LOCATED New York Farms at right prices, in fruit section. General stores doing good business. D. B. Low, Canandaigua, New York.

CABBAGE SEED! Direct from the importers. True stock of Danish Roundhead and Ballhead. Write W. E. Kirchoff Company, Pembroke, N. Y., for literature and prices.

FARMS FOR SALE.

LET US SELL YOUR FARM. No sale—no commission. Many inquiries daily. State particulars first letter. "NISCO"—Department XBK—Cincinnati.

NEW JERSEY FARMS.—New Jersey Fruit, Garden, Poultry Farms between Phila. and New York. Especially desirable for intensive farming. Unsurpassed markets, mild climate. List free. A. W. Dresser, Burlington, New Jersey.

"RIVERSIDE"—Sixteen miles from Boston, milk sales \$400 month, 130 acres, cut 75 tons hay, apples, berries, asparagus, three houses, eighty foot barn, 21 Holstein, poultry and outfit included. Owner's address in Illustrated Guide (describing 600 others) postpaid. Chapin Farm Agency, Boston.

REAL ESTATE FOR SALE

SELL YOUR PROPERTY quickly for cash, no matter where located, particulars free. Real Estate Salesman Co., Dept. 22, Lincoln, Neb.

MISCELLANEOUS

HATCHED 96,000 CHIX in 1913 of 14 varieties. Chix and eggs for sale, Tenth season. Catalogue free. Old Honesty Hatchery, Dept. G., New Washington, Ohio.

IDEAS WANTED—Manufacturers are writing for patents procured through me. 3 books with list 200 inventions wanted sent free. Advice free. I get patent or no fee. R. B. Owen, 50 Owen Bldg., Washington, D. C.

GOVERNMENT FARMS FREE. Our official 112 page book "Vacant Government Lands" describes every acre in every county in U. S. How secured free. 1913 diagrams and tables. All about Irrigated Farms. Price 25 cents postpaid. Webb Publishing Co., Dept. 38, St. Paul, Minn.



Gold that buys health can never be ill spent, Nor hours laid out in harmless merriment. —John Webster.

In case of a weak heart or flabby muscles, all exercise must be taken slowly and with moderation at first, until increasing strength gives ability for more strenuous exercise.

Disease.

Disease and ugliness enter the body through three channels—bad thoughts, bad air and bad food. By bad thoughts is meant idle, foolish, vain, envious, peevish, sordid moods, which actually poison the blood and show physical evidence in sallowness, headaches, wrinkles, pimples and disorders of the nerves.

Chemistry.

Chemistry tells us that stewed fruit is more nutritive than potatoes, is more digestible and acts much more favorably upon the blood, the bones and the brain. Dandelion acts beneficially on the kidneys. Tomatoes are really nutritive and cleanse the blood. Onions excite the gastric juices. Celery is a nerve tonic, and taken daily eliminates rheumatism. The potato has no medicinal properties, but is a valuable aliment if fat is added to it.

Thoughts.

Watch them! Bring wrinkles. Petulance causes them. Worry and suspicion also. Sweep out fretfulness and malice. Change your thoughts to bright things. So will your face show less lines and wrinkles. Your mind also will be less creased and happier.

Simple Treatment for Cold.

The hydropathic treatment of a cold in the head is more reliable than any other, and one which scarcely requires the aid of a physician. It is as follows: In the morning after rising and at night before retiring, wash the feet and legs as high up as the knees in cold water, then rub them with a rough towel and massage them till the skin is red and glowing. In addition to this, snuff tepid water up the nose frequently during the day and sip with a teaspoon, a glassful as hot as can be borne an hour before each meal and at bedtime. A few days is often quite sufficient for simple cases, and obstinate ones yield if the treatment is prolonged. No medicines are required. If taken in the first stages of the disease, a cold is broken up which might otherwise become a severe case of bronchitis lasting many days or weeks.

Work and Health.

Much has been said about the evil effects of over work and the necessity for proper periods of rest. The point has not been too strongly urged; but it must be remembered, at the same time, that the best health is enjoyed only by hard workers.

The athlete's arm attains its size by virtue of the greater quantity of nourishing blood attracted to it by the severe exercise which it undergoes. The mental athlete accomplishes his extraordinary amount of brain work only after years of mental training and effort.

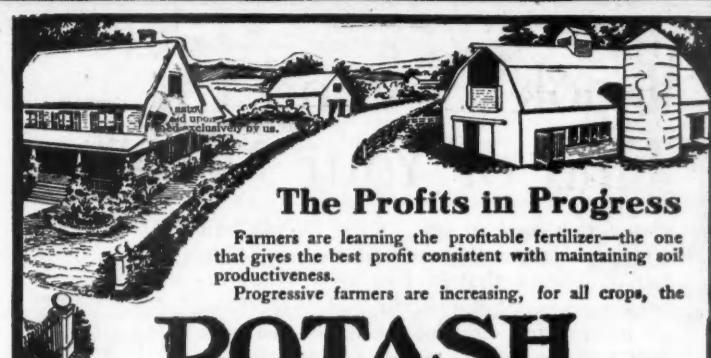
Rarely do the parts thus exercised fail. The neglected functions and organs are more often the cause of the "breakdown."

Work is essential to health. Health in its perfection is found only where both brain and body are active; and it is possible that the keenest health has been enjoyed by the hardest workers in the fields of both mental and physical labor.

Health.

Let me give this paragraph taken from the October number of the Nut Grower:

"Nuts contain little water, a fair amount of protein and a very high percentage of fat. Carbohydrates, which are important constituents of most vegetable foods, are present only in small quantities, except in the chestnut. Most nuts contain about 50 times as much fat and less than one-fifth as much carbohydrates as wheat flour, and have about double the fuel value, or energy producing power. The value of nuts in a strictly vegetarian diet, therefore is obvious, as they form an almost ideal substitute for meat. Some authorities on food values claim that nuts and raisins contain all the elements necessary for human sustenance. Others say that while nuts and raisins contain the necessary food elements, yet they are not in proper form for assimilation. Nevertheless, it is pretty generally admitted that the greater use of nuts for food purposes would result in a material betterment of the health of the people."



The Profits in Progress

Farmers are learning the profitable fertilizer—the one that gives the best profit consistent with maintaining soil productivity.

Progressive farmers are increasing, for all crops, the

POTASH

in their goods. Results have shown there should be at least as much Potash as Phosphoric Acid, for ordinary farm crops take from the soil from 2 to 4 times as much Potash as Phosphoric Acid. For potatoes, truck and fruit the Potash should be double the Phosphoric Acid.

If your dealer insists on carrying only low grade, 2% Potash goods, we will sell you Potash in any amount from one 200-pound bag up.

Write for Prices and Free Pamphlets

GERMAN KALI WORKS, Inc., 42 Broadway, New York
Chicago, McCormick Block Savannah, Bank & Trust Building Atlanta, Empire Building
New Orleans, Whitney Central Bank Building San Francisco, 25 California Street

COLLINS' Garden & Orchard Guide

Tells of practical, proved varieties of fruit trees, small fruits, vegetable roots and decorative plants—over 150,000 peach, pear and apple trees alone. Explains unique SALES PLAN which saves big money to those who think and act at once. Write today to

ARTHUR J. COLLINS, Box 28, MOORESTOWN, N. J.

Get today our new Sales Plan

How 400,000 Fruit Growers Get Highest Prices



This FREE Book Tells

You realize the importance of spraying. Now get this book and find out the best methods. It tells just what spray mixture to use for San Jose Scale, Aphis, Bud Moth, Mildew, and every sort of insect or fungous disease. Explains how to prepare mixture, what proportion to use, best time to apply it and how often to apply. Covers every phase of spraying, gives results of State and Government Experimental Stations.

Describes Proper Sprayers to Use

Don't waste time with slow, inefficient sprayers. Four hundred thousand fruit growers and gardeners have learned the quicker, easier, more thorough way, with Goulds Sprayers. They are getting top prices for their fruit and produce. Goulds are constructed to reduce time and labor, and to use smallest amount of solution necessary to secure best results.

GOULDS RELIABLE SPRAYERS

We make over 30 types of spray outfits, from small knapsack to large power pumps. You can get the one best suited for your needs. Here illustrated is the Goulds "Monarch," for an average orchard or farm, where it is not advisable to get a power sprayer. Can be mounted with tank on skids or truck or in wagon with barrels. All working parts of bronze to resist chemical action of solution. Will throw a fine mist so every leaf and crevice can be saturated. Air chamber will retain pressure several minutes after pumping ceases. Can also be used for whitewashing or cold-water painting.

Write for Free Book Today

It is a working book of instructions. Forty valuable pages that will help you increase your yield 25 to 75 per cent. Covers spraying facts in a way you'll understand; tells how much to use for fungicides, insecticides; how to tell which sort to use, etc. Just write us, "Send Free Spray Book," and do it today.

THE GOULDS MFG. CO.

Largest Manufacturers of Pumps for Every Purpose

43 W. Fall St.
Seneca Falls, N.Y.

(20)



"Look Beyond the End of Your Nose"

grandfather used to say. A big Florida fruit grower remarked that he had to go to California to learn that he had been wrong for twenty years. So the potato growers of Maine get hints from Colorado; the apple men learn how to coöperate from the orange growers. Here's where the national-farm-weekly idea comes in. If you want to travel north, east, south, west and get your long-distance lessons in money-making methods without spending carfare, look beyond the end of your nose and get the national-farm-weekly habit, and the greatest of these is *The Country Gentleman*.

MORTGAGES ARE AS RARE AS PLUG HATS AND WRIST WATCHES in the Shenandoah Valley of Virginia. For here is the land of \$5,000,000 apple crops—one county shipped more apples last year than the whole state of Oregon; here is the land of pure-bred livestock and great yields of corn and alfalfa. One man sold in the Northwest for \$2000 an acre and became a Virginian for \$100 an acre. Great estates are being cut up, and there's a chance for you if you want it after reading *Along the Shenandoah Valley Pike*, in *The Country Gentleman*.

"WHY STAND YE HERE IDLE?" You have a right to ask that question of your loafing half-dozen acres that seem useless for the growing of staples. But how about the non-staples? The things that are not corn, wheat, meat, eggs, milk? The non-staples, by-products, side-lines (call them what you will) avoid competitive prices because the demand is greater than the supply. For months we have had experts at work on this by-product idea. The result is a series of articles that will make you want to grow something father and grandfather didn't grow; incidentally you will grow something else they may have neglected—a bank balance. This series is in *The Country Gentleman*.

THE DOUBLE-PROFIT FARMER isn't resting on a one-legged stool. He is setting his crops to his livestock and marketing the stock with a chance to make a profit on both. He is growing apples and eggs, or berries and broilers, on the same land on the double-crop plan. He is selling direct and getting both the producer's and the retailer's profits. He is fitting two or three specialties together to get the insurance of diversified farming, and he is safeguarded against total failure because he has three legs to his stool. Double-profit combinations are the backbone of the small place and they are described in nearly every issue of *The Country Gentleman*.

TEN DOLLARS MINUS ONE DOLLAR FIFTY EQUALS WHAT? Service. One of our editors said the other day: "Here's a check for \$1.50 for a year's subscription accompanied by a technical question that will cost us ten dollars for an expert to answer. Where do we get off?" The answer was easy: We don't get off; we get on. And that's why we're getting on. Service. Our three hundred thousand weekly circulation from a little more than nothing two and a half years ago shows that we are getting on. It's service. Nearly three-score experts are at our call to answer any question, no matter how technical, you may ask us about your business of farming. Ask us! Thousands are doing it. Just write the R. F. D. Letter Box in care of *The Country Gentleman*.

Everything about the BUSINESS of farming you will find in **THE COUNTRY GENTLEMAN**, the national farm weekly. Five cents the copy, of all newsdealers; \$1.50 the year, by mail.

THE CURTIS PUBLISHING COMPANY
Independence Square Philadelphia, Penna.



Some Good Pears.

At the present day pears are being grown in much greater quantities than in the past. Time was when the getting of produce to market was more difficult than now, and as pears will not keep exposed to air a great while, and cold storage was little understood, the apple was the main fruit tree planted, says Practical Farmer. It still is, and is likely to continue to be, but the pear is now being thought more of than it was. This is particularly the case where facilities are at hand to get the fruit to market quickly. When we remember that much of the fruit of the peach, the pear and similar kinds that are not in the list of long keepers are shipped to us from the Pacific Coast and even to Europe, it shows what can be done in this way. The pear is such a delicious fruit and is such a break from the every-day apple, that as conditions are today it is always looked on as a treat. Aside from cold storage it is not a long keeper, hence the probability of quick sales is to be considered by those who would engage in growing it.

There are long lists of available kinds of pears from which may be chosen sorts to ripen one after the other from early summer to late fall, but in a commercial way the Bartlett leads all as a market variety. This one, in eastern Pennsylvania, ripens in mid-September. Its large, oblong shaped, yellow colored fruit is well known and greatly esteemed. For half a century or longer tree dealers tell us it has been the most popular sort they grow. It has healthy, glossy foliage, thrives well everywhere, bears early, and whether for eating or selling has no competitor.

If marketing were the chief consideration it is probable that the Lawrence would be chosen for a late pear. In

well planted in autumn or in spring, but when severe winters are to be encountered it is best done in spring. The pear may be considered fruit suitable to all parts of our country, if we except Florida and its adjacent states.

Corns or Horses Bruised Sole.

The different kinds of corns are: 1. Dry corns. This corn is dry and seldom causes lameness. 2. Suppurating corns. Considerable pus is formed causing lameness. 3. Chronic corns. This corn is either soft, moist or lardy and there is an intermittent lameness aggravated by improper shoeing, says Farmer's Guide. Some feet are predisposed to corns, viz., narrow, deformed hoofs, deformity of the limbs, badly trimmed, wide, flat feet, excessively weakening the sole bars and frog, permitting the toe to grow too long, shortening one quarter too much, so that the foot is unbalanced, shoeing a heavy horse with too light a shoe, thus permitting the shoe to spring down on the heel. Permitting the feet to become too dry and brittle, thus reducing the elastic properties of the horn. Nailing the shoe too far back, thus preventing the natural spread of the hoof, when placed upon the ground. Applying the shoe too hot while being fitted. Insufficient concavity of the shoe in flat feet. Horses which have never been shod rarely have corns, thus proving that corns are due to errors in shoeing.

First, remove the cause by paring the hoof to the proper angle; shorten the toe and cut down the quarters if too high. Put on a level shoe. If calks must be used, use both toe and heel calks, never toe without heel, nor heel calks without toe, unless for a special purpose. A leather sole should always be used under the shoe and place a dressing over the



Picking pears at the farm of T. Pawley, near Medina, N. Y. These pear trees have been allowed to grow too high. The best pear growers of today cut back the new growth each winter on both dwarf and standard pear trees. If this cutting back of the new growth had been practiced by the owner of the above orchard his trees would have been more handsome in appearance, more productive and more easily sprayed, and the fruit could be more easily gathered.

appearance this variety differs greatly in the character of its growth. Its leaves are small, its branches slender and numerous requiring thinning out at times. But its fine flavored fruit, good bearing character and lateness of ripening, make it a favorite. Its season is late October; and if placed in a cool place they keep well until Christmas. In a commercial way the Kieffer must not be overlooked. Though not to be despised as an eating fruit freshly ripened, it is as one for preserving its claims lie. For canning it is grown in large quantities, and then its fruit is often passed off as Bartlett, but it is coarse grained and not as sweet as the Bartlett and with perhaps more juice.

For home use there are many other pears which should be planted. There is Clapp's Favorite, a most beautiful, large, early sort, ripening in August. It is juicy, and of excellent flavor. Unfortunately it cannot be kept very long, decaying at the core if attempted. The best way is to gather it before fully ripe, keep it in a close room for a week or two, then use it at once. When first introduced, so esteemed was this pear that Mr. Clapp, who raised it, was offered a thousand dollars for the stock, but he preferred to have his own name given it, and to have all the credit for its introduction.

If we start a list of pears to ripen in succession for the home garden, the list might follow in this way: Clapp's Favorite, Bartlett, Howell, Seckel, Duchess, Anjou, Sheldon and Lawrence. The Kieffer, which as aforesaid, is more for preserving than for eating out of hand, ripens in October.

Pears do well in good garden soil as is evident in the many examples. They thrive best of all in deep soil, but when the subsoil is of a clayey nature it causes an astringency in the fruit. Pears do

sole of the following mixture: pine tar, 8 ounces; venice turpentine, 1 ounce; spirits camphor, 1 ounce; compound tincture benzoin, 2 ounces. Mix and smear plentifully over the sole after which apply oakum and the leather pad.

When there is a suppurating corn, the shoe should be left off for several days and drainage for the pus established. Poultices of flaxseed should be applied in which has been placed about two ounces of creoline. When the lameness has been removed, the horse should be carefully shod, using a bar shoe with a leather sole, and the above dressing. The after-care of the hoof consists in keeping it cool, moderately moist and pliant.—R. E. Mitchell, San Francisco Vet. College.

There are about 37 pines native to the United States, of which 25 are western species, and 12 eastern.

Must Spray to Have Sound Fruit.

The man who still clings to the idea that spraying does not aid in the production of fruit should be convinced by the report of W. L. Howard of the department of horticulture of the University of Missouri. By taking orchards here and there over the State of Missouri, Professor Howard has just finished a series of experiments that show that practically all unsprayed fruit is ruined by diseases or insects.

In one orchard where a part was sprayed and a part was left unsprayed, only 1.2 per cent. of the Arkansas Black apples could be classed as clean fruit after the trees had been left unsprayed. In the same orchard, where the same brand of apples had been sprayed, the crop of clean fruit was 76.6 per cent. Another orchard of Missouri Pippin apples experimented with the same way, resulted in 2.1 clean fruit for the unsprayed part and 88.5 for the part which was sprayed.

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A Western Fruit Ranch.

Written for Green's Fruit Grower, by Warren Ferde Wilcox, Colo.

The Inquirer visited one of the fruit ranches in western Colorado at an altitude of 6,000 feet. It was at the time of the apple harvest.

The trees were carrying about as many apples as they could safely hold despite reports to the contrary during the summer. The pickers were busy. Rows of boxes extended along the rows of trees. The trees were running from 23 to 30 boxes per tree. Not a bad yield!

The Inquirer noticed something strange about the manner of pruning the trees. The trees are large and spread out with strong branches stretching out from all sides of the trunk, and yet the trees appear to stand high. The branches, that in most orchards appear to be free from small shoots near the base, were numerous here and were filled with large apples.

Asked regarding this, Mr. Smith said: "We trim our trees differently than a good many orchardists. No two varieties, of course, are exactly alike and we do not trim them alike. As a general rule we clip off the extreme tips of the main branches and we let most of the slips grow on the heavy part of the branch where it is strong to carry an apple without noticing it and yet leave the branch of ample strength to support a large quantity of apples further out on the limb. We find that we get a good many apples in this way that other orchardists do not secure. In many orchards you will find that the pruner has cut off all the little shoots on the main branches of the tree and it is perfectly smooth for several feet out from the trunk.

would be dented and culled if allowed to fall on hard rough ground."

The Inquirer learned after other visits and by driving about the country that a great many orchardists are sowing red clover in their orchards.

Another matter presented itself. As the Inquirer had noted a great demand for hogs to be turned into orchards after harvest to pick up the culled, he said he supposed that hogs would be turned into the Smith orchard as soon as the picking was finished. Imagine his surprise to learn that a hog is never allowed in the orchard. The manager declared that the damage the hogs would do the trees would be greater than any benefit or gain derived from feeding on the waste fruit. He declared that it was the nature of hogs to wallow in the mud and dirt and then to rub and scratch on the trees. This rubbing places a coating of mud about the trees for two feet above its base. This closes up the pores in the tree and prevents the breathing function from being carried out and the tree is often seriously injured. Just as the life of a human being is impaired and terminated by closing the pores of the skin, so is the health and life of the tree damaged by closing its pores with mud. Thus no hogs run in this orchard, although they are usually allowed in many orchards.

The Inquirer noticed at the packing shed that the boxes used had a couple of red cleats across the end. Upon inquiry it was discovered that this is a matter of advertising. On the end of the boxes is stamped "Red Cleat Brand." The manager said it was for a purpose. It doesn't cost much to stain the cleats red and when the fruit is on the market and purchased and the consumer likes the grade, he will invariably go back to the



Irrigation of an apple orchard.

"We received this idea from the man who formerly owned this place and we have never had reason to abandon its practice. On the other hand we are encouraged to keep up the plan. When we were pruning last winter one man said we were ruining our trees for fruit because we were clipping off the tops of the branches. But I have demonstrated by clipping off the extreme ends of the limbs we have made the tree and its limbs stronger to carry the burden of the fruit when it is fully developed. Trees like these can grow a very heavy crop and yet not have to be propped up with stakes when the apples bear down upon them."

The Inquirer noticed that the ground beneath the trees in the Smith orchard was not clean as in most orchards but was covered with a dense growth of red clover somewhat trampled and matted down by the pickers, wagons and other exercise about it. The Inquirer thought that perhaps the manager was somewhat negligent about allowing this growth in the orchard to draw from the soil strength that should go into the trees. Upon inquiry he was informed:

"A fruit tree does take a great deal of strength from the soil, and unless it is replenished the orchard is not able to do as it should. Small fruit will be the result and the percentage of marketable apples will be small. Red clover is the finest fertilizer that I know, the foliage produces an abundance of humus that is very effective after lying on the ground during the winter and decomposing. It also serves to catch the leaves that fall from the trees and utilizes them for mulching. In clean cultivated orchards these blow away and their fertilizing power is lost. The clover matting serves also to protect the apples that may blow off the trees, keeping them from bruising. In this way many are saved as firsts that

dealer and ask for more "Red Cleat Brand" apples. This is an individual manner of advertising and distinguishes the Smith ranch fruit from all others.

The Smith fruit ranch also carries insurance. That sounds strange, but in the barn are 2,000 oil pots orchard heaters commonly called "smudge pots." In the spring the pots are gotten out and placed throughout the orchard at the proper distances and filled with oil. If needed they are ready to be lighted at the moment the temperature drops to the danger point. If they are not needed all right.

And so it goes. The Inquirer learned a great deal about the fruit business by just using his eyes and asking a few questions now and then.

Some little things that do not seem to amount to much really amount to a whole lot. The orchard, of course, is irrigated for it lies in the desert land where there is not sufficient rain fall to grow anything other than grease woods, sage brush, salt weed and cactus. But by diverting the mountain torrents from their mad flight to the ocean, water is applied to the parched soil and it really blooms like the rose. The mountain peaks, always clad in white, literally milk the clouds, and man with marvelous engineering skill brings the water to the fertile valleys and mesas. The Smith ranch is under the great five million dollar Gunnison tunnel and canal.

Editor Green's Fruit Grower:—I am a subscriber, but want trial subscriptions for distribution among my neighbors here, as I do not think any agricultural paper can compare with yours, and am sure there is no horticultural magazine that can approach it. Thanking you for the good things in former numbers and those to come.—E. Angermann, National City, Cal.

FREE TRIAL FOR 30 DAYS NON-CRANKING KEROSENE ENGINE

"The Masterpiece of the Largest Makers of Two-Cycle Engines in the World."

The astounding success of Gaso-Kero two-cycle kerosene engines is based upon the perfect Bessemer Universal Fuel Feeder—patented exclusively by us.

The Wonderful Bessemer Gaso-Kero Engine

This perfect fuel feeder has sounded the death knell of carburetors, and is the most thoroughly successful device for feeding kerosene, gasoline, distillate, etc., to two-cycle engines. It is revolutionizing the engine business. It is one big, right idea: no gas, no oil, no water, no fuel to mix. The engine is simple—no moving parts—constant and steady as clock—2 to 500 H. P. Immediate shipment.

Write for Catalog 411

BESSEMER GAS ENGINE CO.
Largest Makers of Two-Cycle Engines in the World
129 Lincoln Ave., GROVE CITY, PA.

When you write advertisers Please mention Green's Fruit Grower.

15⁹⁵ AND UPWARD SENT ON TRIAL AMERICAN CREAM SEPARATOR

Thousands In Use giving splendid satisfaction justifies your investigating our wonderful offer to furnish a brand new, well made, easy running, easily cleaned, perfect skimming separator for only \$15.95. Skims one quart of milk a minute, warm or cold. Makes thick or thin cream. Different from this picture, which illustrates our low priced large capacity machines. The bowl is a sanitary marvel and embodies all our latest improvements.

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Our wonderfully low prices and high quality on all sizes and generous terms of trial will astonish you. Whether your dairy is large or small, or if you have an old separator of any make you wish to exchange, do not fail to get our great offer. Our richly illustrated catalog, sent free of charge on request, is the most complete, elaborate and expensive book on Cream Separators issued by any concern in the world. Western orders filled from Western points. Write today for our catalog and see for yourself what a big money saving proposition we will make you. Address,

AMERICAN SEPARATOR CO., Box 1121 Bainbridge, N. Y.



The Bastian "Oregon" Pruning Hook

Operates with a simple pump-gum action upon a powerful compound lever which forces the sharp, Sheffield Steel cutting blade through a limb an inch thick with but little effort. Makes a smooth clean cut. No side-strain on the pole-handle. The natural position of hands gives the operator ease, speed and accuracy.

The Bastian "Oregon" Pruning Shears

Have the same easy-working but powerful compound action as the pruning hook. They are especially handy for cutting out water sprouts, heading back young trees, trimming hedges, berry bushes, etc.

STOREY MFG. CO.

The Bastian "Oregon" Fruit Picker

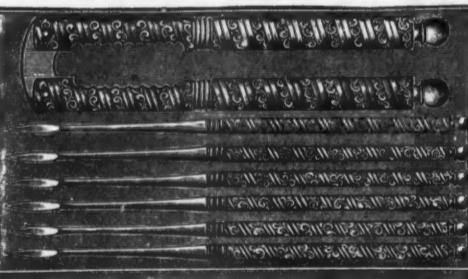
Picks the choice fruit that's "out of reach" without bruising it in the least. It soon saves enough fruit to pay for itself.

Try These Orchard Tools

Bastian "Oregon" Orchard Tools are made of the very best materials; they are powerful, durable and handy to use. Reasonable in price and guaranteed. Made in all lengths. If your dealer has no Bastian "Oregon" Tools in stock, do not accept substitutes, but write to us and we'll send prices and name of nearest dealer who can supply you, or we'll ship direct. Write now for descriptive circular.

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A Beautiful Nut Pick Set



This is both a useful and an elegant premium. The set consists of a handsome and strong nut cracker and six individual nut picks, all in a neat and durable case. Both the nut cracker and the nut picks are made of the very best steel, are beautifully designed and heavily plated. They will be a real delight to you and your guests. The handles of the nut picks are made in a pretty design, while the points are highly polished. The nut cracker is of a design corresponding to the nut picks and is made for good strong service. A set should be in every home. Of course you want ours.

How to get one of these Beautiful Sets: Send us four new subscribers to Green's Fruit Grower at the special low price 50 cents each per year and we will send you the Nut Pick Set charges prepaid.

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1 to 8 Burners



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If you know any woman who cleans and fills lamps seven days a week instead of one day a week—who has the bother of odor, smoke and undershadowed light—it is because she does not know about the Angle Lamps.

If you do know you ought to tell her. If you do not, you should read this letter: "I have used all forms of gas and electricity, but for a rich mellow light with utmost illumination and no shadow, the Angle Lamp still leads."

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Sixteen hours of perfect light from one quart of oil—easy to care for—simple to operate and free from danger of explosion—that is the Angle Lamp.

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We want to interest orchardists who fully realize the advantages of possessing an efficient and effective sprayer. Every Domestic outfit is constructed to fulfill every requirement of the commercial orchardist. The engines and pumps on all

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A Marvelous Spitzberg Story. Apples grown at Sodus, N. Y., on farm of G. H. Tinklepaugh. Owner in picture at right.

Mr. Tinklepaugh standing near one of his trees where the fruit literally "sticks all over" and with but greater scope of camera still more of the delicious fruit could be shown. The showing has attracted wide attention. Dealers and buyers in stopping at the farm have pronounced the showing as the best seen in the state. A generous sampling of five barrels of the fruit has been shipped to Chicago, there to be displayed on plates at the mid-winter show. As announcing to all the world that the Spitzberg variety can be brought to the barrel, and

more productive and profitable. Is it possible that anything more can be said or done to help the farmer? Yes, a lot more can be said and done. The trouble is that thus far the advice given farmers has not been accepted.

One Apple a Day.

"One apple a day keeps the doctor away." This precept sounds good and is good, but candor compels me to say that it is not absolutely true. It would be safer to say that one apple a day will help to keep the doctor away. There are many other things that will help to keep the doctor from tapping at our door, and will keep him from sending us distressing bills for very helpful services.

Apples are more easily digested than pears or plums. I mean ripe apples, for unripe apples are not fit for human food nor for pigs. There are people who have formed the habit of eating an apple just before retiring at night. I have myself eaten apples at 9 o'clock P. M. but do not recommend this to all the readers of Green's Fruit Grower, for there is a difference in human stomachs. The safe thing to do is to eat nothing after the evening meal, but if the stomach will receive an apple at 9 P. M. without discomfort, an apple may be wisely prescribed at that hour.

Apples are substantial food. A hungry man camping in the woods, away from the grocer and baker and the pie maker, may if he has a half dozen good ripe apples, make a satisfactory meal from this delicious fruit, and may thereafter tramp about without weariness or without a befogged brain such as we all are liable to have after a Thanksgiving or Christmas turkey feast. The apple clears the mind

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Address Green's Fruit Grower, Rochester, N. Y.



profitably too, in New York, each plate will be labeled, "Grown at Sodus, N. Y." The trees have yielded a profitable crop for the last nine years, and are a great pride to their owner. On this farm are over 9,000 trees, varying in age and variety. Orchards are set out to peaches, pears, cherries and apples, principally. One orchard is at least 75 years old. Another of two-year-old peach trees promises to produce next season. About 2,000 young trees will come into bearing next year.—Alvah H. Pulver, Sodus, N. Y.

How far off is to-morrow? It may be a day off or a month off or a year.

To-morrow may never come. Do not put off until to-morrow the making of your will or the doing of a kind act.

Is there anything more to be learned about farming or fruit growing? Thousands of editors and thousands of printers have been working throughout the past fifty years or more in telling farmers what to do with their land in order to make it

and clears the stomach, while meat be-fuddles the mind and clogs the stomach. The apple in common with most fruits is a germicide more effective and agreeable to take than some of the germicides recommended by physicians.

I notice that the well-to-do city man is more and more inclined each year to purchase of some reliable farmer a barrel of extra fine Spies, and a barrel of Hubbardston or King or Baldwin as he may fancy for his own eating during the winter. Some of these men are even coming to learn that there are varieties of superior quality to those I have named, such as Banana, Melon, Mother, Shiawassee Beauty, McIntosh Red, Dessert and Delicious, but the doctor across the way from this city man may look with alarm upon the invasion of his territory by such healthful food as apples; that is, a doctor may feel this way if he is of a vicious mind. We trust he is of the other kind, wishing only for the good of his neighbors and the public at large without regard to his anticipated fees.

The Pre-Cooling of Peaches.

In seasons of full crop, the growers sometimes complain of unsatisfactory prices. This is largely because of unsatisfactory handling by the transportation companies through not having adequate refrigerator car facilities, but also largely because suitable pre-cooling means are not available. Pre-cooling means cooling before shipping, and the prefix "pre" before the word cooling in this connection means that the fruit should be cooled quickly after picking and before what is the usual period of cooling during transportation in a refrigerator car. Pre-cooling is necessary because refrigerator cars cannot possibly cool the fruit in a satisfactory manner because the cars are imperfectly insulated and the means of cooling insufficient. If peaches are thoroughly pre-cooled to a reasonably low temperature before loading into refrigerator cars they are, if not delayed in transit, practically insured against damage while going to market. Very few pre-cooling plants have been established as yet, although much experimental work has been done and much pre-cooling talk has been indulged in. Pre-cooling plants cost money, and as the railroad companies have not seen fit to take the matter up systematically, and as the growers and shippers have not been financially able in most cases to provide suitable pre-cooling facilities, there is still a great loss of fruit through decay and deterioration before and during transit and after arrival on the market. If the weather is unusually warm this results in heavy losses to the owners of the fruit.—Cold.

Watching Trees in Winter.

There is not much to do in the orchard until towards spring, but the successful fruit grower keeps his acquaintance with the trees all winter. In every orchard there are trees that require attention in the off season. There are dead limbs to be removed, and sometimes the whole tree should be rooted out, says Farm and Press, and the ground prepared for a new tree to be planted in the spring.

Some farmers object to putting in a tree where one has been removed, but it is better to look to the cause. If the sickly tree was young, the fault may have been with the planting, or the tree itself, but usually there is a fault with the soil or drainage.

In one orchard the trees refused to grow on a strip of ground near a drain ditch although the trees were doing fine in every other part of the orchard. The trouble in this case undoubtedly is faulty drainage. A dynamite blast in each tree hole might correct the difficulty. Apparently the trouble is not in the main drain, because there is a fall of several feet. In fact, the drain is in the bottom of a small ravine deep enough to insure a low enough water table to insure the growth of trees. There are such spots in many orchards.

The late fall and winter is the time to figure out the cause of the trouble and to apply proper remedy. Vacant spaces in an orchard cannot be tolerated. The land is too valuable.

Feeding Dairy Cows.

Prof. Haecker has prepared an extremely valuable bulletin on feeding dairy cows. Its purpose is to "boost" the dairy interests of Minnesota by promoting an increase in the production of milk and butter fat. It is shown that, whereas the average amount of butter obtained from a Minnesota cow is now hardly 160 pounds per year, it can be increased by methodical feeding, be increased 20 pounds or over, which would mean a gain to the farmers of Minnesota of many millions of dollars annually. Tables are given, by the use of which the proper ration for every cow may be easily determined. A study of the bulletin will mean dollars in the pocket of every owner of a dairy herd.

Gathering Apples From Trees 100 Years Old.

Written for Green's Fruit Grower by John E. Taylor, Maine.

An apple tree is like a person and holds its usefulness in old age accordingly. An old orchard is not supposed to be as good as an orchard younger but if a farmer has an old orchard it behoves him to care for it as he will derive profits that will well pay him for his trouble.

There is a farmer in Maine who has several trees on his farm that are 100 years old. The most of them are of the Tolman Sweet variety and from one tree during the past season he gathered seven bushels of Tolman Sweets that he sold for \$2.50 a barrel. This tree shows considerable vitality and shows no sign of dying. From another tree of the same age which during the last few years he has kept trimmed, he gathered 12 bushels of Tolman Sweets during the past season.

Editor Green's Fruit Grower:—In your October issue I find an article treating the question of the freezing of tree sap, etc.

The following facts may be interesting in connection with that article. When taking up onions in the fall there are many small ones, the size of a peanut, or less, which get lost in and on the ground. When fall rains begin these "lost" onions start growing if the root end is in contact or covered with earth. When heavy freezing comes, the top suffers more or less, but the bulb remains alive and vigorous although the earth may be frozen a foot deep. And when spring approaches these "lost" onions furnish the very earliest "scallions." On the other hand

His trees will be more vigorous than on their own roots.—Wm. M. Clark, Neb.

Walnuts in Arkansas.

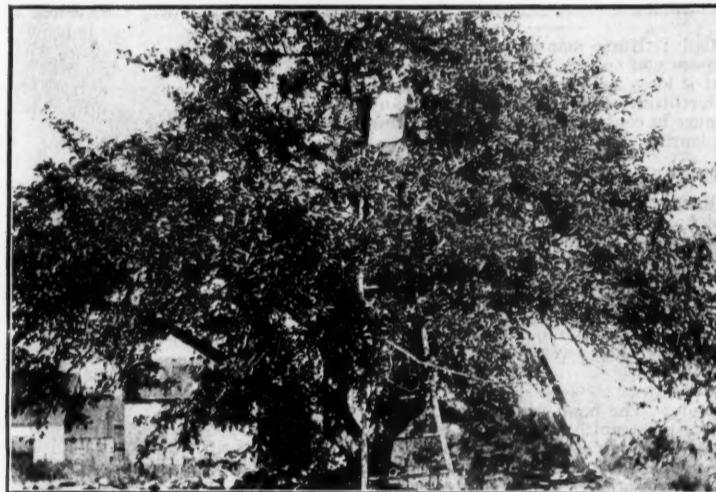
Mr. C. A. Green:—I have been reading the Fruit Grower for the last twenty years. I am now sixty-five years old and retired. I wish to build a monument for myself by starting a soft shelled walnut grove in the hills of Arkansas. I read in your paper a year ago that walnuts were hardy in your climate. Can you tell me how I can get about 1000 nuts? I want them to plant a year from now. An Italian told me that walnuts grow in the north of Italy at the foot of the Alps at 46 degrees below zero. Can you not take this up with the Department of Agriculture at Washington and have these nuts introduced into this country? I think the hills of Arkansas would be an ideal place for them.—Frank Krahm, Oklahoma.

PRICES FOR APPLES AND POTATOES

Government Condition of Both Crops is Low.

Small crops of both apples and potatoes were indicated, with the former showing up much lighter than the latter. The total crop of apples in the United States was estimated at 70.4 per cent., while the total crop of potatoes was placed at 81.3 per cent., says Post Express.

Apples in New York state turned out unusually light, the crop estimate being only 34 per cent. Other states reported the following apple crops: Maine, 47 per cent.; New Hampshire, 40 per cent.; Vermont, 24 per cent.; Massachusetts, 55 per cent.; Rhode Island, 72 per cent.; Connecticut, 70 per cent.; New Jersey, 57 per cent.; Pennsylvania, 43 per cent.;



An apple tree 100 years old in Maine that is still bearing a good supply of Tolman Sweets each season and last season produced seven bushels.

those onions which have no root growth become frozen and rot away very promptly. Herein appears some evidence that "vital force" plays a most important part in maintaining ability to live and in time produce seed for the perpetuation of the onion.

Again, I will assume that chick weed is well known, I may say too well known to be liked. It will be remembered that it is green, fresh and blooming as early as the snow melts down enough to let it peep through. It is almost impossible to kill the pest when the ground is not real dry, or in the fall when most weeds become more or less dormant. The roots being very numerous and thread like, it is next to impossible to so uproot it that not a single thread reaches into the soil, but if this is not accomplished the plant will withstand almost any kind of freezing and remain green and ready for business. But make sure the plant has no root connection with the ground, and the plant freezes, shrivels and dries up like any other weed.

While I have no experiments to prove it, I yet believe there is a continuous circulation of sap (so called) in all perennial vegetable growth,—and also in biennials more or less. For that reason I believe it better to defer trimming grape vines, (and other severe trimming), until very late in the dormant period, to give the plant the benefit of this circulation and the consequent, probable metamorphosis as long as possible.

Could the sap be isolated and obtained at various periods and in sufficient quantities for chemical analysis, much might be learned of the secrets of vital respiration and growth.—C. D. C., N. J.

Walnuts.—Tell Mr. John H. Drefien, who proposes to plant a 40-acre farm in Ottawa Co., Michigan, to nuts, to plant this fall our common black walnuts (two or three) where he intends his English (or Persian) walnut trees to grow. Allow only one—the best—to grow and when it is 5 or 6 feet high bud or graft with the variety of English walnut he desires.

Millersville, Pa., Oct. 18, 1913.

Mr. C. A. Green, Editor:—I want your Fruit Grower, it is a very helpful paper. I can hardly wait from one issue to another to see what is new in it. I am introducing it to all interested in fruit. It is an up-to-date paper for all classes of people who are willing to take advice. I enclose subscription, 50 cents.—Ephriam F. Manning, R. F. D. No. 2.

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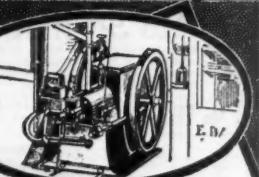
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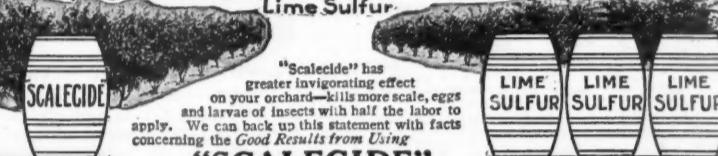
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We are World Distributors for VREELAND'S "ELECTRO" SPRAY CHEMICALS and Arsenate of Lead Powder (33 per cent.), which, used wet or dry, has no equal in strength or texture. Avoid imitations. B. G. PRATT CO., Mfg'g Chemists. 50 Church Street, New York City

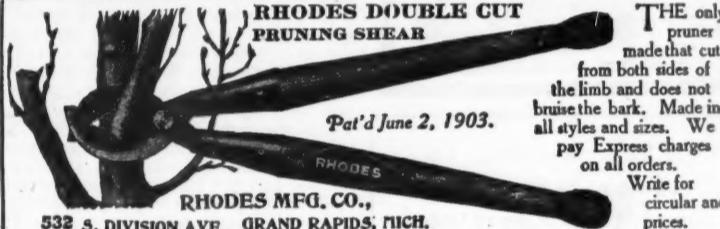
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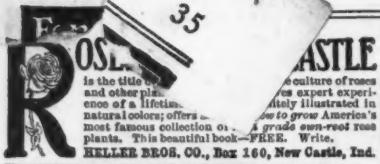
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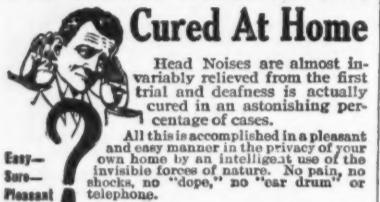


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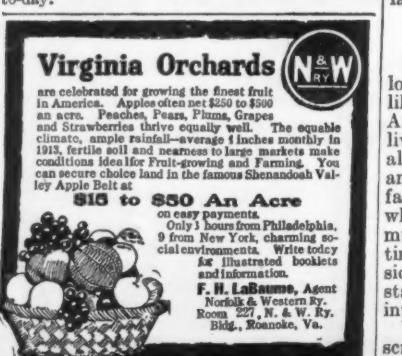
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Letters From the People.

"Prudent questioning is the half of knowledge.—Proverb.

Spur Pruning Grape.

Mr. C. A. Green:—I have read concerning Clinton grape, that it required spur pruning on old canes for best results. Could you explain in the next issue of your excellent Fruit Grower what spur pruning on old cane means?—Alfred Marzorati, N. Y.

Reply: I assume that spur pruning on old canes of any grape vine means leaving on the old wood many spurs of new canes of the present season's growth, each spur containing three buds. Most grape vine pruning consists of spur pruning somewhat modified by leaving new canes occasionally to lead off to cover the wall or trellis, the new canes having occasional spurs or short pieces of new canes left on them with three buds to each spur.

To Prevent Injury From Rabbits.

Mr. C. A. Green:—I wish to inquire whether a preparation of melted tallow, pine tar and a small amount of carbolic acid applied to young fruit trees to prevent injury from rabbits will injure the trees.—L. E. Ambrose, Arkansas.

Reply: I have no experience with the preparation you speak of. I have heard that anything like flesh or blood is shunned by rabbits and is distasteful to them. I would not dare apply any kind of grease or tar or paint to the bodies of my young fruit trees as such material might injure the trees. I can think of nothing better than to shoot the rabbits or to cover the trunks of the trees with thin strips of thin wood called veneer, or fine wire mesh, which can be wrapped around the trees like stiff paper.

Orchard Injury.

Green's Fruit Grower:—On the evening of September 30th ult. this section was visited by a fearful hail storm—the worst ever known in this locality—that did an immense amount of damage to apple crop and to fruit trees, especially to the young fruit trees. I have a three-year-old apple orchard of fifty-three acres that suffered severely. Not a whole leaf was left on a tree in the whole plantation, and the whole was practically defoliated. The storm came from the southwest, and that side of the limbs and branches are badly barked and skinned; the trunks bruised but not laid wide open, only the bark cracked. As a consequence of this injury the trees are leafing out some on the southwest side and most of the winter buds are much swollen. Should warm weather continue, I fear all buds on southwest side will be too far advanced to get through the winter. My trees were a splendid lot of thrifty huskies, a second before the storm and I was certainly proud of them. Will Prof. Van Deman be good enough to help me over a rough place—as he has helped so many before?—R. L. Campbell, Va.

Reply: This terrible bruising of the bark is a serious injury to the trees but it is wonderful what nature will do to heal the wounds in a short time. A coating of paint would be very good but a touch with a brush dipped in melted grafting wax would be even better. Either will keep out the spores of fungus diseases that are apt to find lodgment in the bruised places and the sooner and more completely they are shut out the better; nothing of the kind will in any degree prevent the growth of any dormant buds that nature may force out to take the place of those injured.

Stable manure should be scattered about under the ends of the branches and not placed near the bases of the trees, for it is liable to be too strong in nitrogen and injure the bark of the trunks and larger roots.

Locating in New York State.

Mr. C. A. Green:—I am thinking of locating in New York State and would like some information about the country. At present prices, is dairying paying a living profit, say in Cortland county? Do all crops require commercial fertilizer and what is the cost of same? I find farms for sale in Cortland county at about what the buildings would cost. Is it much trouble to get a good stand of timothy and clover? Everything considered, what is the best part of New York state for general farming, taking prices into consideration?

Your paper, of which I have been a subscriber for several years, gives me much pleasure and information.—J. C. Parsons, Iowa.

Reply: I do not advise you to buy a cheap farm in New York state. I would prefer to buy a good farm at from \$100 to \$125 per acre. I would buy in a fruit growing district. There is no better soil in the world than that around Rochester, N. Y. A subscriber has come here from Oklahoma and bought a farm at \$150 per acre, or less, suitable for fruit growing, and will buy another farm next spring for that purpose. Lands seem to be cheaper around Rochester than they are in many portions of the west or middle west where fruit can be grown. I advise any one about to buy a farm to make a careful search and not be too hasty in buying. Never buy a farm until you have seen it and until you have consulted with the neighbors and learned about its productivity. Pay particular attention to the condition of the buildings, since putting up new buildings is marvelously expensive at this time. I know of a farm near Green's Fruit Farms that was offered last spring at less than \$100 per acre, a splendid farm with good buildings.

Burning Brush.

Editor Green's Fruit Grower:—I have a small garden and would like to know if it is advisable to burn brush on it and leave it to be plowed under.—Geo. W. Erb, Nebraska.

Reply: Yes, burn brush in the garden but be careful to scatter all of the ashes, otherwise the place where you leave the ashes will bear no crop.

Manure and Fruit Trees.

Editor Green's Fruit Grower:—Let me know in your next issue if horse manure is good to put in with other fertilizers to plant fruit trees in.—Jack Bronsart, California.

Reply: Horse manure is good for the purpose you specify. If it is allowed to heat it loses a large portion of its value as fertilizer. Be careful not to get any manure in contact with the roots of trees at planting.

Peach Inquiry.

Green's Fruit Grower:—I have a pond that holds water throughout the season. It has water diameter of nearly 100 feet at the time the peach blooms. The ground is raised around the outside. Would this water afford any protection to the fruit buds if trees were set on this ground? We do not get full crop of peaches oftener than one year in seven.—W. B. Howland, Ohio.

Reply: The pond is too small to furnish any perceptible protection from late spring frosts or any effect in moderating the temperature during winter. Water that is frozen over during winter cannot moderate the temperature. When not frozen over in early spring it would have some effect on the temperature but too slight to be noticeable.

Building a Small Fruit House.

Green's Fruit Grower:—I wish to get some information about the best way to put in a house for keeping from 50 to 100 bushels of apples. I have a steep side hill for site and can easily dig a place for a lean-to. Or is it a better way to build a shed with two thicknesses of siding with air space between?—H. H. Ashenden, Conn.

Reply: I advise excavating into the side hill and building of cement or plank a retaining structure to prevent the soil from dropping into the cellar. The lower part of the cellar floor will be on a level with the ground outside. This can be roofed over cheaply, the roof to be covered with some of high grade tar roofing material, which can be purchased almost anywhere in rolls. The structure can be made enduring and somewhat expensive or it can be made very cheaply. The building need not be made frostproof, for after you have placed in it your apples you can, when danger of freezing occurs or earlier, the later the better, throw bundles of cornstalks or straw over the barrels, which will keep the fruit in ideal condition during the winter, and yet they can be taken out at any time during the winter or late spring.

I have known apples to be kept by placing in barrels, old barrels are as good as any, and burying them in the ground after excavating a hole at least half the width of the barrel when lying flat upon the ground. I have also known apples to be kept by excavating slightly and piling the apples up in the pit, covering them with straw and then lightly with earth, adding more earth as danger from freezing occurs. Remember that the secret of keeping apples in winter is to keep them continually as near the freezing point as possible without actually freezing. If the apples are in barrels it will do no harm if the thermometer drops a few degrees below freezing point.

I have known apples to fall from the trees and be partially covered with leaves,

to remain thus all winter and to be found in good condition the next spring. I assume, however, that these apples received additional covering of snow during the winter. I have known apples to be frozen and to come out in good condition, but it is not safe to allow them to become frozen. Should they freeze do not move or disturb them until the frost has come out, and allow the frost to come out as slowly as possible.

About Quince Culture.

Mr. C. A. Green:—Kindly tell me through your paper something about the culture of the quince. I have a piece of gravelly or sandy loam land, well drained and highly manured. Do you think it profitable to plant to quince?—J. Freedman, Tenn.

Reply: The quince thrives on almost any soil that will grow corn, wheat and potatoes. Contrary to the opinion of some the quince tree like other fruit trees does not like wet soil or soil that needs draining. The quince is in addition to its fruit an ornamental bush or tree. When grown in the bush form it is perhaps more productive and reliable than when grown in the tree form, but in either way it is generally productive of large and handsome fruit.

Quinces are not so largely in demand as other staple fruits. There are many families who can use a peck of quinces but not many who would want them by the bushel. This is one reason why the quince is not more largely grown. In the neighborhood of Geneva, N. Y., there are large orchards of quinces, which, I am told, have proved remarkably profitable. This year quinces have been lower than in many previous years.

The quince tree will thrive and bear fruit without cultivation as is proved by the fact that we see it growing without cultivation along the hedge row, along the garden fence, or wherever it may have been planted. But if the quince tree is given good cultivation the result will be larger and more marketable fruit. The roots of quince trees are more sensitive to injury by frost during winter than most trees. Where the quince is grown in sod offers a winter protection to the roots. Where the quince is grown in cultivated soil it may be well to mulch the ground lightly as winter approaches to protect the roots, though the roots might not be injured so far north as western New York in ordinary winters even with no protection.

I would not advise planting the quince so largely as the apple, peach, pear and some other fruits, but no fruit farm is complete without it and no home is complete without a few bushes of quinces.

More Greaves.

Mr. C. A. Green:—I notice in a late copy of your magazine a short sketch under the heading, "Are We Related?" This leads me to write you that I have in my possession a short sketch taken from the bible which was brought to this country by the brothers referred to, which states that they left Aukley Hall, England, in 1630, and settled in Warwick, Rhode Island. Built the Green stone castle in 1675-6. Their names were Peter, James, John and Thomas. There was one sister by the name of Mary, who married a man by the name of Reynolds. I took this statement from the bible brought with them, which was printed in 1626.—L. W. Green, N. Y.

Plums and Peaches.

Mr. Green:—I feel so well pleased from the information obtained from you I wish to thank you and tell you the results. In the early spring I wrote to you for information in regard to my Bradshaw plum trees that blossomed full every spring but did not fruit. You informed me if I cut with the point of my knife around each limb it would make them produce fruit. Although I did so I had little faith, but I have just picked 2 bushels or more, which is more than I have ever picked from the trees for 12 years all put together. Twelve years ago the trees were covered with black knots. I cut all the large limbs off to the trunk of each tree and burned them; since then there have been no knots. I speak of these knots that if your readers have trees covered with black knots not to pull up the trees but do as I did to mine.

I am so well pleased with the results on the plum trees I wish to be informed what to do to my 3 year old seedling peach tree. It bore 60 peaches for its first crop. I wish to know why most of the stones were split open and the seed had disappeared and the inside of the stone black and moldy.—S. H. Warren, Mass.

Reply: The pits of peaches are often split open and come apart when the peach is cut. Sometimes the pit is moldy. I know of no particular reason why this should be so. Thanks for your interesting letter.

to be found
spring. I
these apples
ing of snow
own apples
in good con-
allow them to
y freeze do
till the frost
rost to come

Little Helps by the Way.
But though fierce blow the winds through forests
shrouded,
Where snows for leafy verdure, cheerless cling,
Through seas moon wild, and skies are darkly clouded,
Within the heart that loves 'tis always spring!
There memories and hopes, fresh budding, throng,
And faith forgets that winter lingers long.
—Florence Earle Coates.

MIRACULOUS HARVESTS.

Twenty Seeds of Grain Yield an Increase of Over 700,000, and That Within a Year.

"The principle is simple. It consists in preparing seed-beds in widely spaced lines on very mellow land; then at the end of two months dividing the tufts springing from each grain, replanting each of these rooted shoots thus detached; and finally in hoeing and earthing up these new plants many times in such manner as to provoke at all the points brought into intimate contact with the earth the growth of numerous adventitious shoots, each of which bears an ear," says Le Correspondant, Paris.

"It is, in sum, a combination of 'slipping,' transplanting, and pruning."

"The system is, in truth, not new, but very ancient one, used immemorially by the Chinese, and to it is due the enormous yield of their fields, which have been treated like gardens."

"While our peasants throw broadcast handfuls of grain on the harrowed earth, offering rich pasture to pillaging birds and rodents, the Chinaman, after furrowing the earth with his wooden plowshare, without turning it, crumbles each lump in his hands till it is like fine powder. This done, at planting time he walks slowly down each furrow carrying a grain-trail which is a marvel of ingenious simplicity."

"At the end of a few weeks germination begins. When the young plant is ten or twelve inches in height, there are a score of stalks about its stem each provided with a fringe of rootlets. The farmer covers each with loose earth by means of careful hoeing, thus raising the level of the furrow. Each stalk again proliferates, and there are soon fifteen to twenty new stalks around its stem, which detach themselves. All are the indirect issue of a single grain, which proves therefore to have been the parent of 300 to 400 stalks, each bearing an ear."

"Transferring this method to experimental fields and perfecting it, it has been found possible to separate from the stem each of the primitive stalklets with its own roots, transplant it, and then treat in the same way each of the new plants thus formed."

"Thus Philippe Miller planted a seed in the experimental gardens at Cambridge in June, 1776; in August, 1777, he obtained as a harvest from this single seed 576,000 seeds. For unknown reasons the experiment was not repeated until June 12, 1903. On this date our own compatriot Bellenox treated in this manner twenty grains of wheat planted in one square yard of carefully mellowed earth. On August 9 he separated and replanted the numerous stalklets springing from the earth. On October 8 of the same year, then on March 3 of the next year, and finally on May 13 he repeated the operation. On July 30, 1904, each of his twenty grains had produced 604 clumps bearing 28,388 ears, containing a total of 709,701 grains."

In buying apples at this time of year very few people seem to really know that the apples they get may not be at maturity for several weeks and possibly months after they are purchased, says Field and Farm. The fruit-stand men put on display the very showy apples which catch the eye of the passerby and create an appetite for something to eat, but usually he gets nothing better than Ben Davis or Wealthy. The following will give the consumer a pretty good idea of what to buy for the season of the year he desires to use them: The Grimes Golden, a yellow, Jonathan, brilliant red and yellow, are apples of high quality and are at their best from October to December. Wagners, red over yellow, Orley, waxen yellow, Delicious, dark red and yellow, Stayman Winesap, dark red stripes, Rome Beauty, striped with red, are all dessert apples and are ready for use from December until late winter. Our main crop varieties like Gano, red, Ben Davis, red, Winesap, dark red, Lawyer, bright red, Arkansas Black, very dull red, Black Twig, dark red, Missouri Pippin, bright red, Pearmain, yellowish and Colorado Orange, yellow, are not ready for use until after January 1 and will supply the apple eating consumer until the new crop comes again next July. Our favorite apple at the present time is the old-fashioned Rambo which is grown to perfection here in Colorado. This apple is prime for eating or for cooking. The flesh is so tender that it melts down into splendid sauce. Every variety of apple has a season when it is at its best and uses to which it is especially adapted, and consumers should familiarize themselves with these things so as to enjoy them more.

Pruning Shears Given Away by Green's Nursery Co.

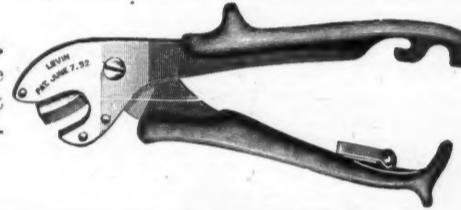
WE want orders sent in early by those buying vines, plants, or trees, for planting this spring. We therefore offer the famous **Levin Vine and Tree Pruner** as a gift to every person who sends in his or her order for nursery stock amounting to \$7.00 or over, as per coupon below. If your order is less than \$7.00 get your neighbor to join you in ordering trees, all to go in one package, and the **Levin Pruner** will be sent to you.



Gift of Green's Nursery Co., for early orders.
You should order early for your own good. These shears given for early orders. You cannot prune right without them. Read about this gift of Green's Nursery Co. This gift may be worth \$5.00 to you.

This famous **Levin Pruner** is acknowledged to be the best made. Hardware dealers ask \$1 for it. No farmer or fruit grower should try to get along without pruning shears like that illustrated on this page. This pruner is made of the best steel. It is strong and durable. With it you can do twice the work you can with an ordinary pruning knife, and you can do the work with greater ease.

The **Levin Pruning Shears** are the best for pruning grape vines, raspberry, currant, gooseberry, blackberry and other shrubs and vines, also in cutting back the new shoots of pear and apple trees and for many other purposes on the fruit farm.



Levin Pruner Used at Green's Fruit Farm for Many Years

We have never found anything better than these pruning shears. They can be easily taken apart and sharpened. We are able to send you this valuable premium free for the following reasons:

This gets your order to us before our big rush in April. This aids us by giving our office clerks steady work from January to April. It helps you to get more special attention in copying and filling your order and the trees shipped to you early in the spring, which is important.



Gift of Green's Nursery Co., for early orders.
You should order early for your own good. These shears given for early orders. You cannot prune right without them. Read about this gift of Green's Nursery Co. This gift may be worth \$5.00 to you.

Conditions of Green's Offer to Give away these Pruning Shears

If your order amounts to \$7.00 or more, and if it reaches our office on or before March 15th, you will receive one **Levin Tree Pruner** free of charge, provided you ask for it at the time you order the trees, etc. These pruning shears will be sent carefully protected in the package with your trees.

Green's Nursery Co.
91 Wall Street, Rochester, N. Y.

Cut out this coupon and send it with your order, then you will be sure to get the **Levin Pruner** gift.

GREEN'S NURSERY CO.,

Rochester, N. Y.

I enclose herewith my order which amounts to \$7.00 or more, at catalog price, and will ask you to send with my order your gift of the **LEVIN PRUNER**. I understand no premium will be allowed on order received after March 15th, 1914. I may add my neighbor's order to my own to make it amount to \$7.00, all to go in one package. Only one premium may be applied on any one order.

.....Name

.....City

.....State

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CBANG!!
No Money Down

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We are determined that the Spring of 1914, will be the most successful in the history of this Great Company, and the Wise man will take early advantage of the great bargains shown in this advertisement.

You can order a complete carload of building material from us, including everything you need to construct and equip and we will ship it to you, without one cent cash in advance.

All we want to know is that the money will be paid us as soon as the material is received, unloaded and checked up.

Lumber Prices S-m-a-s-h-e-d

Yes, we mean smashed. Absolutely busted to pieces. That's our policy. We quote prices on lumber that will positively save you big money. If you will send your lumber bill we will send you a freight paid price that will mean a saving to you of from 30% to 50%. Every stick is absolutely first class, brand new and fully up-to-grade such as you would buy from any reputable house in the United States.

We have determined that the year of 1914 is going to be the greatest year in our great lumber department. We have on hand 20,000,000 feet of high-grade lumber suitable for the construction of buildings, no matter for what purpose intended. Come to our great yard in Chicago and let us show you this lumber actually in stock. No other concern in the world has a more complete stock of everything needed to build, whether Lumber, Shingles, Structural Iron, Plaster, Heating, Doors, or anything else that you may need. Do you know that lumber is getting scarcer and scarcer every year? Yet our prices are lowest and will continue so until our stock is gone. WRITE TODAY.

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We have a special lot of 1,000,000 sq. ft. to 2 1/2 in. Clean Shingles on which we are making an exceptionally low price of \$2.30. Order by lot No. MS-40.

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Galvanized Steel Roofing Is Fire, Water and Lightning Proof

We bought 10,000,000 sq. ft. of this Corrugated Iron Roofing, which is offered at a remarkable low price. It is new, perfect, and first-class, but light weight. The sheets are 22 x 24 in. x 1 1/4 in. corrugated. Our price of \$1.25 per sq. ft. is f. o. b. each Chicago. Order by lot No. CD-700. This is not galvanized, but black steel roofing.

Write us today for our special FREIGHT PREPAID PRICES on new, galvanized roofing. We are offering prices lower than ever before offered in the roofing business. Galvanized roofing at \$2.75 per square and up. Ask for free samples. We can furnish anything needed in Roofing, Siding or Ceiling.

62c Per 108 Square Feet Buys Best Rubber Surfaced "Ajax" Roofing

Here again we show the lowest price ever known for roofing of quality. This smooth surfaced roofing we are offering is our one-ply "Ajax" brand, and the price includes freight to Chicago. At 62c per square, this price is f. o. b. Chicago; at 85c per square, we pay the freight in full to any point East of Kansas and Nebraska and North of the Ohio River, provided your order is for at least 3 squares. Prices to other points on application.

Roofing is guaranteed to last and gives as good service as Ready Rubber Surfaced Roofing on the market. It is cut in rolls of 108 square feet and contains 8 to 10 pieces to the roll. We have other grades of roofing and will offer the same at lower prices, sent regular quotations. Write today for free samples and Roofing Catalog. Fill in the coupon.

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There is no change in our business, except that in the future the four Harris Brothers will advertise and sell their goods, heretofore advertised and sold under the name of the CHICAGO HOUSE-WRECKING COMPANY, under the new name of HARRIS BROTHERS COMPANY.

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New Galvanized heavy weight barbwire, put up on rolls about 100 lbs. to the reel. Lot 2-CD-35, price per rod, 10c. Galvanized barb wire, 2-point, 10c per rod. Light weight, best grade, best made, 2-point barbs. Lot 2-CD-36, per rod, 9.14c.

WIRE NAILS, Per Keg, \$1.28
5,000 kegs, put up 100 lbs. to the keg mixed, all kinds together. regular nails, such as made by nail factories. Lot 2-CD-35, price per keg, \$1.28. 1,000 kegs of 10 penny-weight regular new wire nails, 100 lbs. to the keg, while last, per keg, \$1.85. Write for our free Wire and Fence Catalogue. Gives valuable information to any land owner. Fill in the coupon below.

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It is suitable for fences, stay wires, grape vines or for any ordinary purpose where wire is used. This galvanized wire is irregular in length—it ranges anywhere from 50 to 250 ft. \$1.13 is our price for 10 gauge. Other sizes in proportion.

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Here is another one of our remarkable bargains. One good roll of heavy hog fencing from Ohio factories, specially adapted for hogs and general farm purposes, 26 in. high, square mesh, put up in suitable size rolls. Lot 2-CD-31, price per rod, 15c. Other heights in proportion. Staples, 100 lbs., \$1.75.

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95c Per Gal

We are the World's Barrels Headquarters for the outfitting of homes, offices, stores, garages, etc. or hotel, from the very latest to the finest. An assortment of goods of every description, nothing such as will be found in no other institution in the land. Write for a free copy of our Furniture and Household Goods Catalog.

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Everything arrived in good condition. I saved on the building: also heating plant and bathroom outfit about \$1000.00 as this kind of lumber would be very dear here.

Signed (LEWIS YOUNG, Pennsylvania.

\$700.00 Saved

I am perfectly satisfied. Don't be backward in referring to me for you have done more than you agreed to. I saved \$700.00 and also got better material, and a better house.

(Signed) JOHN J. DUNN, Ohio.

Satisfied With Furnace

The furnace I got from you is perfect in every way. I would not be without it one winter for double its price. If farmers only knew how easy it is to install it, they would not be without it.

(Signed) HENRY D. CHARTER, Canada.

\$13 BUYS COMPLETE BATHTUB

This is a white enameled, cast iron, one-piece, heavy rim bathtub, fitted with the latest style nickel-plated trimmings, including a pedestal, a hot and cold water, nickel-plated connected pipes. It is 5 ft. long and is good enough to answer the needs of any one. Let SCD-101.

Hot Water Heating Plants

We are headquarters for steam, hot water and warm air heating plants. We have the latest style, including a new and improved model. It is easy to install one of these plants in your home. Sale of course we are offering a warm air heating plant large enough for the ordinary house, and complete with necessary plans and complete instructions for installing, for \$45.00.

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Good iron pipe in random lengths, complete with couplings, suitable for gas, oil, water and conveyance pipes. Our price is 1 in. per foot 3c; 1 1/4 in. inch at 4c per foot. Complete stock fittings. Send us your specifications.

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